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Fertilizer Report

August 1 to December 31, 1919

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BUREAU OF CHEMISTRY

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LETTER OF TRANSMITTAL

DEPARTMENT OF AGRICULTURE
BUREAU OF CHEMISTRY

Harrisburg, Pa., May 27, 1920.

Hon. Fred Rasmussen,
Secretary of Agriculture,
Harrisburg, Pa.

Dear Sir:—I have the honor to transmit herewith for your approval a report of the results of the inspection of commercial fertilizers during the Fall season of 1919 showing the chemical analyses of official samples received from the authorized sampling agents of the Department and other data thought to be of importance.

It is recommended that this report be published in bulletin form for distribution.

Very respectfully,

JAMES W. KELLOGG,
Chief Chemist.

FERTILIZER REPORT

August 1 to December 31, 1919.

INTRODUCTION.

From August 1 to December 31, the period constituting the Fall inspection season, there were obtained from Dealers and Selling Agents throughout the State by the authorized Sampling Agents of the Department, 968 official samples of commercial fertilizers representing the brands offered for sale for fertilizing purposes, which together with a detailed report for each were sent to the Bureau of Chemistry. Of this number 827 representing 503 different brands which were registered for sale during 1919 by 70 different companies, were carefully analyzed, determinations being made for moisture, nitrogen, total, available and insoluble phosphoric acid, and water soluble potash where claims were made for these elements of plant food. The few samples not analyzed in order to avoid duplication of work included duplicate samples of like brands, as where several samples of the same brands were received not more than 3 were analyzed. The fertilizers having similar compositions were, as is customary, arranged in 6 groups or classes which together with the number of samples of each were as follows: Complete Fertilizers, 360; Nitrogen and phosphoric Acid Fertilizers, 252; Ground Bone Fertilizers, 23; Acidulated Phosphate Fertilizers, 86; Rock and Potash Fertilizers, 98 and 8 Miscellaneous Fertilizers including nitrate of soda, tankage, manure, salt, dried ground blood, and 3 other miscellaneous brands. The results of the chemical analyses of these samples show that of the total number 210 or 25.4 per cent. were deficient in one or more elements of plant food. The largest number of deficiencies occurred in the case of the Ground Bone Fertilizers where 30 per cent. contained less total phosphoric acid than claimed and in the case of the Complete and Rock and Potash Fertilizers where from about one-fifth to one-fourth of the samples respectively contained less potash than guaranteed. While many of these deficiencies were not excessive, as will be noted by referring to the table showing results of analyses in detail, there were several which showed excessive deficiencies and this large proportion of the fertilizers which failed to supply the amounts of plant food guaranteed caused considerable loss to the consumers. This condition has prevailed for several past seasons and indicates the necessity of much more care on the part of the manufacturer in correctly guaranteeing their product if the farmers are to receive the full value of the materials for which they paid. The most noticeable feature of the composition of the Fall season's fertilizers was an increase in the amount of potash furnished by the Complete and Rock and Potash Fertilizers which averaged 2.11 per cent., and 2.94 per cent., containing as high as 6.04 per cent. and 5.91 per cent. of potash in these 2 respective classes. This increase in the amount of potash can be attributed to the larger supply of potash salts on the market since the signing of the armistice which also caused an increase in the proportion of the brands of fertilizers supplying potash, as there were twice as many samples of Complete and Rock and Potash Fertilizers obtained as during the previous Fall season. There was considerable variation in a composition of fertilizers of like classes especially in the case of the Complete Fertilizers where 47 different formula brands were secured as will be noted by referring to the following paragraph under the Discussion of the Results of Inspection.

The retail selling prices prevailing for the fertilizers included in this report show a decided decrease in many cases and with the exception of the Ground Bone Fertilizers the average prices were less than those noted for the fertilizers obtained during the last Spring season of 1919 and with the exception also of the Acidulated Phosphates were less than the average values for the fertilizers obtained during the Fall season of 1918. These comparative values are more fully discussed in the paragraph under Average Analyses and Retail Prices. The estimated unit values based on the average analyses and retail prices were $7.00 to $9.43 a unit for nitrogen; $1.71 a unit for phosphoric acid and from $3.29 to $4.85 a unit for potash. These unit values as estimated in the manner outlined show a decrease of approximately $5.00 for nitrogen and $2.50 for potash compared with the previous season's fertilizers, indicating a tendency for a reduction in the prices charged for the fertilizers which are now being disposed of in the State.

The information obtained therefore as a result of the Fall inspection season's work shows that there was a very large number of deficiencies that should not have occurred and much needed room for improvement, a general reduction in the retail selling prices and an increase in the number of brands supplying greater amounts of potash. There was no occasion for criticism with respect to the materials entering into the preparation of the several brands of fertilizers as no violations of the law were noted where untreated leather, hoof, horn and wool-waste were used except in accidental traces.

In the following pages will be found the acknowledgments, copies of the fertilizer laws, a discussion of the main features noted for each class of fertilizers with tables showing the average compositions and retail selling prices of the several formula grades of complete fertilizers, deficiencies, average analyses and retail prices, and tables showing the detailed form the results of analyses of each sample of fertilizer, classified according to their composition, which were received during the Fall inspection season.

ACKNOWLEDGMENTS.

Mr. V. B. Hausknecht, First Assistant Chemist, had charge of the reception and preparation of samples and supervision of the details of the analytical work, making duplicate analyses and check determinations where required. Mr. H. E. Gensler, made the miscroscopical examinations and aided in the analytical work. Mr. W. E. Huber supervised the preparation of tables and assembled data for this report. The chemical analyses were made by the following assistants: Messrs. William Weber, G. J. Kuhlman, Jr., F. B. Williams, C. R. Engle, D. W. Huber and W. E. Huber. The samples were prepared for analysis by W. W. Cassel.

FERTILIZER LAW.

As amended May 29, 1917.

No. 205.

AN ACT

To regulate the manufacture and sale of commercial fertilizers; prescribing penalties for its violation, and repealing an act entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one.

Section 1. Be it enacted, &c. That all corporations, associations, partnerships, or persons, before selling or offering for sale any commercial fertilizer in the Commonwealth, except the dung of domestic animals, lime, marl, and wood ashes, shall brand or attach to each bag, barrel, or package in a conspicuous place on the outside thereof, a plainly printed statement giving the following particulars and no others:—

(1) The number of pounds of fertilizer contained in the package.

(2) The name, brand, or trade-mark under which the fertilizer is sold.

(3) The name and principal address of the manufacturer, importer, or other person putting the fertilizer on the market in this Commonwealth.

(4) The minimum percentage of each of the following constituents which the fertilizer may contain: (a) Nitrogen; (b) nitrogen equivalent to ammonia; (c) total phosphoric acid; (d) available phosphoric acid; (e) potash soluble in distilled water. The potash may be claimed "derived from," or "equivalent to," sulphate of potash, if there is not a sufficient amount of chlorine present to unite with one-half (½) of one per centum (1%) of actual potash (K_2O). In the case of undissolved bone, tankage, phosphate rock, and similar materials in their natural and untreated conditions, when sold unmixed with other substances, the minimum percentage of the total phosphoric acid therein may be stated, instead of the percentage of total and available phosphoric acid. But, in the case of basic phosphatic slag, the available phosphoric acid shall be stated on the basis of the results of an analysis by the Wagner method, so-called, until such time as the Association of Official Agricultural Chemists of North America shall adopt an official method of analysis for basic slag after which the available phosphoric acid shall be stated on the basis of an analysis by the method of said association.

Section 2. Every manufacturer or importer of commercial fertilizers, as specified in section one of this act, shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture a statement of the names and number of brands of such commercial fertilizers, having distinct trade-names, that he shall offer for sale during the next ensuing year, and a copy of the analysis of each one of such brands of commercial fertilizers, as required by section one of this act.

Section 3. In addition to the statement required by section two of this act, every manufacturer or importer of commercial fertilizers shall, on or before the first day of January of each year, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of each brand of fertilizer, having a distinct trade-name, sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred and fifty tons or less, he or they shall pay or cause to be paid to the Secretary of Agriculture the sum of fifteen dollars for each and every brand of such commercial fertilizer, having a distinct trade-name, sold within the State during the last preceding year; and if the said amount shall exceed one hundred and fifty tons, and be not more than two hundred and fifty tons, he or they shall pay the sum of twenty dollars, as aforesaid; if the said amount shall exceed two hundred and fifty tons, and not more than four hundred tons, he or they shall pay the sum of thirty dollars; if the amount shall exceed four hundred tons, and not more than five hundred tons, he or they shall pay forty dollars; and if the amount shall exceed five hundred tons, he or they shall pay fifty dollars. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars upon each such brand, as aforesaid: Provided, That all moneys so received shall be immediately paid by the Secretary of Agriculture into the State Treasury for the use of the Commonwealth.

Section 4. No person shall sell, offer, or expose for sale, in this State, any pulverized leather, hair, ground hoofs, horns, or wool waste, raw, steamed, roasted, or in any form, as a fertilizer, or as an ingredient of a fertilizer or manure, without an explicit statement of the fact; said statement to be conspicuously affixed to every package of such fertilizer or manure, and to accompany and go with every lot, parcel, or package of the same.

Section 5. Any person or persons selling, offering or exposing for sale, any commercial fertilizer or any brand of the same, having a distinct trade-name, without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above-named constituents than is contained therein, or for the sale of which all the provisions of sections two and three have not been complied with, or any person violating any of the provisions of section four of this act, shall be guilty of a misdemeanor, and, on conviction, shall be sentenced to pay a fine of not less than twenty-five nor more than one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs, and fines recovered shall be paid by him or his duly authorized agent, and by him shall be immediately paid into the State Treasury, for the use of the Commonwealth.

Section 6. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public; and for this purpose the said Secretary of Agriculture, such assistants, agents, experts, chemists, detectives, and counsel as he shall duly authorize, shall have full access, ingress, and egress to and from all places of business, factories, barns, buildings, carriages, cars, and vessels, used in the manufacture and transportation, or sale, of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer and take therefrom samples for analysis, upon tendering the value of said samples.

Section 7. The term "commercial fertilizers," as used in this act, shall be construed to mean any and every substance imported, manufactured, prepared, or sold for fertilizing or manuring purposes, except the dung of domestic animals, marl, lime, and wood-ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of July, one thousand nine hundred and nine; and the act entitled "An act to regulate the manufacture and sale of commercial fertilizers; providing for its enforcement, and prescribing penalties for its violation," approved the twenty-fifth day of March, Anno Domini one thousand nine hundred and one, is hereby repealed.

BONE LAW.

No. 95.

AN ACT

Making it unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone; and providing a penalty for violation of the same.

Section 1. Be it enacted, &c., That it shall be unlawful for any person, firm, or corporation, engaged in the manufacture or sale of commercial fertilizers, to use the word "bone" in connection with, or as part of the name of, any fertilizer, or any brand of the same, unless the phosphoric acid contained in such fertilizer shall be the product of pure animal bone.

Section 2. Any person or persons violating the provisions of this act shall be deemed guilty of a misdemeanor, and, upon conviction thereof, shall pay a fine of fifty dollars for the first offense, and a fine of not less than one hundred dollars, nor more than two hundred dollars for every subsequent offense; such fine or fines to be paid into the State Treasury, for the use of the Commonwealth. The Secretary of Agriculture shall, together with his deputies, agents, and assistants, be charged with the enforcement of this act.

Section 3. All magistrates, aldermen, and justices of the peace throughout this Commonwealth shall have jurisdiction to hear and determine actions arising from violations of the provisions of this act, and shall have authority to hold for court, or to impose the penalty hereby prescribed, subject to appeal, as the law shall direct.

Section 4. This act shall go into effect on the first day of January, Anno Domini nineteen hundred and ten.

Approved—The 23rd day of April, A. D. 1909.

EDWIN S. STUART.

DISCUSSION OF THE RESULTS OF INSPECTION.

COMPLETE FERTILIZERS.

Analyses in Table I.

The Complete Fertilizers received and analyzed during the Fall inspection season numbered 360 samples and included 207 different brands registered and sold by 50 companies. This number of samples and brands was greater than those received of the other classes of fertilizers and twice the number, averaging upon analysis twice the amount of potash, of the complete fertilizers selected during the corresponding Fall season of 1918. This increase in amounts of potash can be attributed to the increase in the supply of potash materials, the scarcity of which during the war caused a reduction in the number of brands of complete fertilizers and a corresponding increase in the brands of nitrogen and phosphoric acid fertilizers found on the market during the war and immediately following the armistice. There were 47 different formula grades ranging from that of ¼-7-2 to 4¾-5-1 supplying from 0.25 to 4.75 per cent. of nitrogen as ammonia, from 4.00 to 12.00 per cent. of available phosphoric acid and from 0.50 to 6.00 per cent. of water soluble potash. They were found upon analysis to contain from 0.41 to 3.56 averaging 1.34 per cent. nitrogen, from 4.03 to 13.86 averaging 8.96 per cent. available phosphoric acid and from 0.43 to 6.04 averaging 2.11 per cent. of potash. A large proportion of the complete fertilizers failed to meet their guarantees in one or more elements of plant food there being 100 or 27.8 per cent. of the samples of this group which were classified as deficient. There were 8 or 2.2 per cent. of the samples deficient in nitrogen, 35 or 9.7 per cent. deficient in available phosphoric acid and 70 or 19.4 per cent. which contained less potash than guaranteed. This number of deficiencies shows a marked increase over those found in the samples obtained during the Fall season of 1918 and nearly the same percentage of deficiencies as found in the complete fertilizers received and analyzed during the Spring of 1919. While a large number of the deficiencies were not excessive there were many cases, especially in the potash content, where the deficiencies exceeded .20 of 1 per cent. and being as much as .75 per cent. deficient in nitrogen, from 2 to 4 per cent. deficient in available phosphoric acid and 1.50 per cent. in water soluble potash. This large proportion of deficient samples indicates a serious loss to the farmers using such brands of fertilizers which failed to meet their guarantees. There were 159 samples where the potash was estimated to be present in both the muriate and sulphate forms, 125 where the potash was present as muriate and 76 containing potash as sulphate.

The retail selling prices prevailing at the time the samples were selected as reported by the sampling agents, show a marked decrease compared with those prevailing for the past three inspection seasons for complete fertilizers. They ranged from $24.87 in a brand analyzing 0.41 per cent. nitrogen, 10.07 per cent. available phosphoric acid and 1.92 per cent. potash, to $60 in a brand supplying 3.53 per cent. nitrogen, 10.92 per cent. available phosphoric acid and 3.02 per cent. potash and averaged $34.91 a ton. The amount of potash supplied by the complete fertilizers was in excess of that furnished by this group sold during the Fall season of 1918 in which the highest potash guarantee was 2.00 per cent. supplied by 18 different brands as is illustrated by the 25 brands included in this report showing guarantees of 3.00 per cent. potash, 25 brands with 4.00 per cent., 4 brands with 5.00 per cent., and 1 brand with 6.00 per cent. guarantees for water soluble potash.

As has been shown in previous fertilizer reports considerable variation in the selling prices for fertilizers of like composition or formula continues to prevail although the average retail selling prices for 1 or more of the same grades or formulas tend to increase proportionately as the formula or the amounts of plant food contained increase from the lower to the higher grades. As already shown there were 47 different formula grades of complete fertilizers analyzed including from 1 brand and sample to 33 brands and 62 samples of each grade. In those grades including the largest number of brands and samples considerable variation existed between the lowest and highest selling prices. The formula 1-8-1 was the grade represented by the largest number of samples and included 33 brands and 62 samples and the selling prices ranged from $27.50 to $56 showing a difference of $28.50 a ton for complete fertilizers supplying the same amounts of nitrogen, available phosphoric acid and potash. Of the formula 1-8-2 there were 20 brands and 38 samples which sold for from $28.57 to $39.50 showing a difference of $10.93 a ton. Of the 2-8-2 group there were 18 brands and 25 samples with selling prices of from $33 to $42 with a difference of $9 a ton. The formula 1-8-4 included 17 brands and 34 samples with selling prices ranging from $27.50 to $43 with a difference of $15.50 a ton and the grade having the formula 2-12-2 included 12 brands and 22 samples with selling prices of from $38 to $46 showing a difference of $8.50 a ton. The 12 samples of ½-8-1 showed a difference of $5 a ton between the lowest and highest selling prices, the 18 samples of 1-7-1, $14.40 a ton, the 12 samples of 1-8-3, $6.50 a ton, the 12 samples of the 1-9-1, $11 a ton and the 19 samples of the formula grade 1-9-3 showed a difference of $14 a ton between the lowest and highest selling prices. Of those grades where a less number of brands and samples were received similar inconsistencies existed between the lowest and highest retail values. While these selling prices, especially in the case of those brands where only a few samples were obtained, can not be fairly claimed to represent the values of the grades of complete fertilizers found being sold during the Fall inspection season, it will nevertheless indicate the necessity, when purchasing fertilizers, of paying attention to the amount of plant food which they are advertised to contain and the prices charged for such brands in order that full value may be received for the amount of money expended, as in many cases the higher formula grades can be purchased for nearly the same or for less money than is frequently charged for fertilizers containing the smaller amount of plant food. For the purpose of comparing the average analyses and retail selling prices of the complete fertilizers supplying like amounts of plant food, the average results have been estimated where more than one brand and sample of the same grade or formula were received. These results together with the analyses and selling prices of the grades where only one brand and sample was analyzed were tabulated and are included in the following table:

Formula.	Number of Brands.	Number of Samples.	Nitrogen.	Phosphoric Acid.	Potash.	Price.
			%	%	%	
¼-7-2,	1	1	0.41	10.07	1.92	$24 87
½-8-½,	3	5	0.90	8.13	0.77	27 38
½-8-1,	6	12	0.72	8.88	1.13	27 50
½-8-2,	1	2	0.67	7.88	2.34	30 09
½-10-1,	1	1	0.68	10.39	1.10	32 00
1-4-1,	1	1	0.72	4.21	1.12	43 00
1-7-1,	13	18	1.07	7.45	1.32	29 82
1-7-3,	2	3	1.47	7.38	2.76	31 38
1-8-1,	33	62	1.05	8.51	1.10	31 11
1-8-2,	20	38	1.12	8.30	2.07	32 41
1-8-3,	5	12	1.18	8.52	2.92	35 64
1-8-4,	17	34	1.12	8.42	4.11	36 62
1-9-1,	6	12	1.10	9.39	1.05	32 25
1-9-2,	1	3	1.05	9.49	2.02	34 00
1-9-3,	9	19	1.17	9.57	2.86	35 39
1-10-1,	3	4	1.13	9.91	1.01	31 23
1-10-2,	1	3	1.10	10.24	2.30	33 63
1-12-1,	2	3	1.33	11.85	1.22	37 00
1¼-7-1,	1	1	2.48	7.57	1.45	37 00
1¼-8-¾,	1	3	1.24	8.37	0.91	30 00
1¼-8-1,	1	1	0.95	8.34	0.83	32 00
1¼-10-2,	2	3	1.30	9.46	1.93	35 42
1½-8-1,	1	1	0.90	11.82	0.49	--------
1½-8-2,	1	2	1.43	8.78	1.89	36 75
1½-10-1,	5	8	1.69	10.31	1.06	34 35
1½-12-1½,	1	3	1.55	12.03	1.55	37 83
1¾-7-1,	1	3	1.35	8.67	1.39	36 17
1¾-7-3,	1	3	1.61	8.29	3.12	37 00
2-6 2,	1	1	1.84	5.75	1.78	40 00
2-7-3,	1	1	1.35	7.26	3.59	38 00
2-8-1,	1	1	1.79	10.84	0.66	33 00
2-8-2,	18	25	1.82	8.26	2.01	36 66
2-8-3,	6	7	1.82	8.48	2.96	39 00
2-8-4,	1	2	1.96	8.15	4.30	42 75
2-8-5,	3	7	1.76	8.74	4.51	43 45
2-8½-1,	2	4	1.93	8.99	1.19	34 25
2-9-1,	4	4	1.82	9.37	1.20	38 25
2-9-5,	1	1	1.76	9.60	5.05	--------
2-10-2,	1	1	1.48	9.92	2.13	41 00
2-10-4,	7	10	1.88	10.18	3.77	43 69
2-10-6,	1	3	1.81	10.07	5.83	52 00
2-12-2,	12	22	1.80	12.21	2.17	41 16
2½-8-1,	3	4	2.46	8.25	0.95	39 13
3-8-1,	2	2	2.35	8.67	1.21	42 00
3-9-1,	1	1	2.88	10.07	1.14	48 00
4-10-3,	1	2	3.46	11.23	3.02	56 50
4¾-5-1,	1	1	3.56	5.92	1.24	52 00
47 Totals,	207	360	1.34	8.96	2.11	$34 91

NITROGEN AND PHOSPHORIC ACID FERTILIZERS.

Analyses in Table II.

There were 252 samples analyzed including 155 brands registered by 55 companies which were classified as Nitrogen and Phosphoric Acid Fertilizers, including dissolved or acidulated bones, ammoniated phosphates and mixtures of materials supplying nitrogen and available phosphoric acid. They were guaranteed to contain from a trace to 5.76 per cent. nitrogen and from 6.00 per cent. to 14.00 per cent.

of available phosphoric acid, the highest guarantee for nitrogen and the lowest for available phosphoric acid being furnished for the same brand. Upon analysis they were found to contain from 0.30 to 5.62 averaging 1.51 per cent. nitrogen and from 6.28 to 15.05 averaging 10.18 per cent. available phosphoric acid, the average composition being approximately the same as for this class of fertilizers obtained during the previous Spring and Fall inspection seasons. The contents of insoluble phosphoric acid varied from 0.13 to 9.63 averaging 1.53 per cent. and the total phosphoric acid varied from 6.98 to 20.92 and averaged 11.71 per cent. Of the total number of samples of this class analyzed there were 55 or 21.8 per cent. which failed to meet their guarantees and 13 or 5.2 per cent. were deficient in nitrogen and 45 or 17.9 per cent. deficient in phosphoric acid, a less number of deficiencies than found upon analysis of the samples of Nitrogen and Phosphoric Acid Fertilizers obtained during the past two inspection seasons. The retail selling prices reported at the time the samples were obtained were from $21.25, for a brand analyzing 0.50 per cent. nitrogen and 8.63 per cent. available phosphoric acid, to $60 for a brand supplying 3.86 per cent. nitrogen and 8.98 per cent. available phosphoric acid and averaged $31.65 a ton. These prices were less than those noted for the Spring season of 1919 which averaged $37.99 and $34.21 for those of the corresponding Fall season of 1918.

GROUND BONE FERTILIZERS.

Analyses in Table III.

There were 23 samples classified as Ground Bone Fertilizers representing 18 different brands registered by 16 companies. They were guaranteed to contain from 1.65 to 3.75 per cent. nitrogen and from 18.30 to 29.00 per cent. total phosphoric acid and upon analysis were found to contain from 2.19 to 4.84 averaging 3.70 per cent. nitrogen and from 19.01 to 28.19 averaging 23.45 per cent. total phosphoric acid. There were 7 or 30.4 per cent. of the samples which were found not to contain as much total phosphoric acid as guaranteed. The determinations for the degrees of fineness showed that that portion passing a 1-50th of an inch mesh sieve and classified as "fine" ranged from 35 to 85 and averaged 60 per cent., while the portions of the samples which failed to pass this size and classified as "course" ranged from 15 to 65 averaging 40 per cent. The selling prices prevailing at the time the samples were selected were from $45.50 to $62.00 and averaged $55.85 a ton, showing an increase over the average price of $53.81 a ton for the ground bone fertilizers secured during the Spring season of 1919 and of $50.57 for those obtained during the Fall season of 1918.

ACIDULATED PHOSPHATE FERTILIZERS.

Analyses in Table IV.

The Acidulated Phosphates, the fertilizers resulting from the treatment of pulverized phosphate rock with sulphuric acid, included 86 samples and 57 brands registered by 41 companies. This class of fertilizer supplied available phosphoric acid although they are guaranteed for the amount of total phosphoric acid which they contain as well as in the majority of cases for insoluble phosphoric acid. More than one-half the number received or 56 samples were guaranteed to contain 16.00 per cent. available phosphoric acid and 19 had guarantees of 14.00 per cent., the remaining number having 13.00, 12.00, 10.00 and 8.00 per cent. guarantees. They were found upon analysis to contain from 7.96 to 18.45 and averaged 15.55 per cent. available phosphoric acid. The amounts of insoluble phosphoric acid varied from 0.03 to 5.49 and averaged 0.95 per cent. and the total phosphoric acid varied from 8.39 to 18.79 and averaged 16.50 per cent. Eleven, or 12.8 per cent. of the samples were found deficient in available phosphoric acid and while these deficiencies were as a rule less than 1.00 per cent., there were 2 samples which analyzed approximately 5.00 per cent. less than claimed. The retail selling prices were from $19.50, in a sample analyzing 16.45 per cent. available phosphoric acid to $32.00 in one containing 17.04 per cent. and averaged $26.50 a ton, showing an approximate average retail value for phosphoric acid of $1.71 a unit. This average value shows a slight decrease from that of $27.89 a ton for the acidulated phosphates sold during the Spring of 1919 and slightly in excess of the average price of $25.89 a ton for those of the corresponding Fall inspection season of 1918.

ROCK AND POTASH FERTILIZERS.

Analyses in Table V.

The fertilizers supplying available phosphoric acid and water soluble potash and classified as Rock and Potash Fertilizers, which were selected for analysis included 98 samples and 59 brands registered by 30 companies, which numbers was about twice the number of this class of materials received during the past two inspection seasons, resulting no doubt from an increase in the supply of potash salts. They were guaranteed to contain from 8.00 per cent. to 12.00 per cent. available phosphoric acid, the majority showing 10.00 per cent. guarantees and the claims for the amounts of potash which they contained varied from 1.00 per cent. to 5.00 per cent. a considerable increase over the amount of potash supplied by this class of fertilizers offered during the Spring season of 1919 and Fall season of 1918, which were guaranteed to contain not more than 2.00 per cent. of potash. They varied in their composition from 6.76 to 12.73 averaging 10.37 per cent. available phosphoric acid and from 0.87 to 5.91 averaging 2.94 per cent. water soluble potash. In 44 of the samples the potash was found to be present in both the muriate and sulphate forms and in 30 samples it was present as muriate and in 24 as sulphate. There was 1 sample of "Shur-Gro" not included in the average which analyzed 0.14 per cent. available phosphoric acid and 2.16 per cent. of potash. The selling prices were from $21.25 to $44.00 and averaged $32.00 a ton, being less than the average prices of $37.18 and $33.39 a ton for those brands obtained during the Spring of 1919 and Fall of 1918 respectively.

MISCELLANEOUS FERTILIZERS.

Analyses in Table VI.

There were only 8 samples of materials found being offered for sale during the Fall inspection season which were classified as Miscellaneous Fertilizers, including 7 different brands registered by 5 companies. They included 2 samples of a brand of nitrate of soda averaging 15.82 per cent. nitrogen and selling for an average price of $87.50 a ton; 1 sample of manure salt analyzing 21.58 per cent. potash and selling for $48.00 a ton; 1 sample of dried ground blood containing 13.30 per cent. nitrogen and having a retail selling price of $107.35 a ton; 1 sample of tankage analyzing 6.59 per cent. nitrogen and 10.77 total phosphoric acid and selling for $50.00 a ton. The remaining samples included 1 sample each of Animal Base Special containing 1.55 per cent. nitrogen, 18.43 per cent. total phosphoric acid and selling for $41.00 a ton; Royster's Fifty-Fifty Bone and Phosphate containing 1.25 per cent. nitrogen, 21.42 total phosphoric acid and selling for $45.00 a ton and Success Plant Grower containing only 1.78 per cent. of potash, for which no selling price was obtained. There were no deficiencies noted among this class of fertilizers.

DEFICIENCIES.

Of the 827 samples of fertilizers obtained during the Fall inspection season covered by this report representing the brands registered with the Department during 1919, there were 210 or 25.4 per cent. of the samples which failed, upon analysis, to meet their guarantees in either one or more of the elements of plant food, nitrogen, phosphoric acid and potash, and which were therefore considered as being deficient samples. In estimating these deficiencies only those samples were considered where the elements compared with the guarantees were found to be 0.20 per cent. or more below the claims made and in the case of guarantees of 0.50 per cent. or less where they analyzed 0.10 per cent. or more below these guarantees. This large proportion of deficiencies shows much room for improvement in stating correct guarantees and indicates a serious loss to the farmers using those brands of fertilizers where such deficiencies occurred. With the exception of the Miscellaneous samples each group or class of fertilizers showed a similar proportionate number of deficiencies. For the past several seasons about the same proportion of deficiencies have been found there being 28.3 per cent. of the samples obtained during the Spring season of 1919, and 19.8 per cent. of the samples of the corresponding Fall season of 1918, which were found upon analysis to be deficient. Of the 360 Complete Fertilizers 100 or 27.8 per cent. of the samples were deficient in one or more elements of plant food, 8 or 2.2 per cent. being deficient in nitrogen, 35 or 9.7 per cent. deficient in available phosphoric acid and 70 or 19.4 deficient in water soluble potash. In the case of the 252 samples of Nitrogen and Phosphoric Acid Fertilizers, 55 or 21.8 per cent. were deficient in either nitrogen, phosphoric acid or both and 13 or 5.2 per cent. were deficient in nitrogen alone and 45 or 17.9 per cent. were deficient in available phosphoric acid alone. Of the 23 samples of Ground Bone Fertilizer 7 of the samples or 30.4 per cent. were deficient in total phosphoric acid no deficiencies being noted in nitrogen. There were 86 samples of Acidulated Phosphated Fertilizers guaranteed for available phosphoric acid and of this number 11 or 12.8 per cent. failed to meet their guarantees. Of the 98 Rock and Potash Fertilizers supplying available phosphoric acid and water soluble potash, 37 or 37.8 per cent. were deficient in one or more of these elements of plant food and 12 or 12.2 per cent. were deficient in available phosphoric acid and 28 or 28.6 per cent. of the samples contained less water soluble potash than guaranteed. The largest proportion of deficiencies was found to occur in the Ground Bone Fertilizers where nearly one-third of the samples were deficient in total phosphoric acid and in the case of the Complete Fertilizers and Rock and Potash Fertilizers where 19.4 per cent. and 28.6 per cent. respectively were found to contain less potash than claimed. There were, of course, many cases where the "overages" indicated a better grade of material than guaranteed and while the proportion of deficiencies was larger than it should be, the majority of the deficiencies were not excessive although, as will be noted by referring to the table showing detailed analytical results, a few of the samples were found to contain as much as approximately 1.00 per cent. less nitrogen, 5.50 per cent. less available phosphoric acid and 2.00 per cent. less water soluble potash than guaranteed. Of the 641 fertilizers guaranteed to contain nitrogen 21 or 3.3 per cent. were deficient; of the 796 samples guaranteed for available phosphoric acid 103 or 12.9 per cent. were deficient; 7 or 26.9 per cent. of the 26 samples guaranteed for total phosphoric acid including the Bone Fertilizers were deficient and in the 460 samples of fertilizers guaranteed for potash 98 or 21.3 per cent. were deficient. In the following table is shown the number of samples of each class of fertilizers which were deficient in nitrogen, phosphoric acid and potash:

Classes of Fertilizers.	Number of samples.	Deficient in nitrogen.	Deficient in available phosphoric acid.	Deficient in potash.
Complete fertilizers,	360	8	35	70
Nitrogen and phosphoric acid fertilizers,	252	13	45	----------
Ground bone fertilizers,	23	----------	*7	----------
Acidulated phosphate fertilizers,	86	----------	11	----------
Rock and potash fertilizers,	98	----------	12	28
Miscellaneous fertilizers,	8	----------	----------	----------
Totals,	827	21	110	98

*Total phosphoric acid.

AVERAGE ANALYSES AND RETAIL PRICES.

The following table shows the average contents of moisture, nitrogen, total, available and insoluble phosphoric acid and water soluble potash found upon analyses of each class of fertilizers together with the average retail selling priçes prevailing at the time the samples were obtained.

	Complete fertilizers.	Nitrogen and phosphoric acid fertilizers (dissolved bones, etc.)	Ground bone fertilizers.	Acidulated phosphate fertilizers.	Rock and potash fertilizers .
Number of samples,	360	252	23	86	98
	%	%	%	%	%
Moisture,	6.11	4.80	5.65	4.50	5.60
Total nitrogen,	1.34	1.51	3.70	----------	----------
Total phosphoric acid,	10.28	11.71	23.45	16.50	11.35
Available phosphoric acid,	8.96	10.18	----------	15,55	10.37
Insoluble phosphoric acid,	1.32	1.53	----------	0.95	0.98
Potash,	2.11	----------	----------	----------	2.94
Mechanical analysis of bone:					
Fine,	----------	----------	60	----------	----------
Coarse,	----------	----------	40	----------	----------
Selling price,	$34.91	$31.65	$55.85	$26.56	$32.60

Compared with the average results for each class of fertilizers obtained during the several past inspection seasons no marked difference in the average composition of the fertilizers, included herewith, was noted except in the case of potash. The average potash of 2.11 per cent. in the complete fertilizers exceeded the average amounts of 1.27 per cent. and 1.17 per cent. found in the samples of this class of fertilizers obtained during the previous Spring of 1919 and Fall of 1918 respectively and the average potash of 2.94 per cent. in the case of the rock and potash fertilizers for the same seasons exceeded the respective average amounts of 1.71 per cent. and 1.66 per cent.

Compared with the fertilizers sold during the past three inspection seasons of the Spring of 1919, Fall of 1918 and Spring of 1918 for each class the average retail selling prices of the Complete and Nitrogen and Phosphoric Acid Fertilizers was lower and the average for the Ground Bones showed an increase. The average price of the Acidulated Phosphates was less than that noted for the Spring of 1919 and in excess of the average values estimated for the brands secured during the four preceding seasons. The average retail price of the Rock and Potash Fertilizers was also less than for the Spring of 1919 and Fall of 1918 and exceeded the average value of those obtained during the Spring of 1918. For the purpose of showing the approximate average retail unit values for nitrogen, available phosphoric acid and potash, as included in previous reports, from which the approximate retail values of any formula grade of fertilizer can be estimated, from the formulas guaranteed, these unit values were estimated in the following manner: The average retail selling price of the acidulated phosphates was divided by the average available phosphoric acid giving the retail unit value for phosphoric acid. Using this value for the average available phosphoric acid of the Nitrogen and Phosphoric Acid Fertilizers, deducting this amount from the average selling price and dividing the remainder by the average content of nitrogen the unit value or nitrogen as supplied by this class is obtained. The unit values thus obtained for nitrogen and phosphoric acid applied to the average contents of these elements shown for the Complete Fertilizers, deducting the amounts obtained from the average selling price and dividing by the average potash gives the retail unit value of potash as supplied by the Complete Fertilizers. In a similar manner the unit value of phosphoric acid, as supplied by the Acidulated Phosphates, applied to the average content of available phosphoric acid in the Rock and Potash Fertilizers deducting the amount from the average selling price and dividing the remainder by the average content of potash, given the unit value of potash as furnished by this class of fertilizers. By using this value and that for phosphoric acid the unit value of nitrogen in the Complete Fertilizers was also secured for comparison. The approximate retail unit values estimated in the manner outlined were as follows: Nitrogen $7.00 to $9.43 a unit or from 35c to 47c a pound; phosphoric acid $1.71 or 8½c a pound and potash from $3.29 to $4.85 a unit or from 16.4c to 24.3c a pound. These unit values compared with those for the fertilizers obtained during last Spring inspection season show a decrease of approximately $5.00 a unit for nitrogen and $2.50 for potash, the phosphoric acid showing only a slight decrease of 8c a unit. The average retail selling prices for the several classes of fertilizers reported by the sampling agents as prevailing for the brands sold during the Spring and Fall seasons of 1917, 1918 and 1919 are included in the following table for comparison:

	1917.		1918.		1919.	
	Spring.	Fall.	Spring.	Fall.	Spring.	Fall.
Complete fertilizers,	28.33	30.26	38.59	38.99	42.87	34.91
Nitrogen and phosphoric acid fertilizers,	23.93	27.34	33.22	34.21	37.99	31.65
Ground bone fertilizers,	38.80	43.58	50.21	50.57	53.81	55.85
Acidulated phosphates,	17.56	20.68	23.45	25.89	27.89	26.56
Rock and potash fertilizers,	25.70	27.50	30.93	33.39	37.18	32.00

KEY TO TABLES.

The following tables include the detailed results of chemical analyses of each sample. All samples were given a chemist's number as shown in the extreme left and right hand columns and are grouped in alphabetical order of manufacturers and brand names. Each class is shown in separate tables and the following information will serve as a key to these tables:

The asterisk (*) indicates the cases where total nitrogen, available phosphoric acid and total potash are deficient to the extent of .2 per cent. or more below their respective guarantees. In cases where the guarantees are .5 per cent. or less the deficiencies noted are where the amount is .1 per cent. or more below the guarantees.

Order of results of analysis: Moisture, Total Nitrogen found and guaranteed, Total Phosphoric Acid found and guaranteed; Available Phosphoric Acid found and guaranteed; Insoluble Phosphoric Acid found and guaranteed; Total Potash found and guaranteed. The Potash is shown as Muriate and as Sulphate in the Columns.

To determine the formula of any brand, as guaranteed, multiply Total Nitrogen guaranteed by 1.2158 to obtain Ammonia and then use this figure and the guarantees for Available Phosphoric Acid and Total Potash. For example, Nitrogen guarantee equals .82% (.82x-1.215=1%). Ammonia equals 1% Available Phosphoric Acid 8% Potash 1%. Formula therefore is 1-8-1.

Complete Fertilizers, Table 1, furnishing Nitrogen, Phosphoric Acid and Potash.

Nitrogen and Phosphoric Acid Fertilizers, Table 11, including Dissolved Bones and other like products.

Ground Bone Fertilizers, Table III, furnishing Nitrogen and Phosphoric Acid.

Acidulated Phosphate Fertilizers, Table IV, furnishing Phosphoric Acid.

Rock and Potash Fertilizers, Table V, furnishing Phosphoric Acid and Potash.

Miscellaneous Fertilizers, Table VI, including Nitrate of Soda and Tankage, Ground Blood, Manure Salt and 3 miscellaneous fertilizers.

TABLE NO. I.—

Furnishing Nitrogen,

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7791	Allen's Popular Phosphate, 1916,	Miller & Bushong, Rohrerstown,
7317	Bowker's Corn & Grain Grower,	Herman J. Mosteller, Glen Moore,
7844	Bradley's Niagara Phosphate,	Geo. Ifft & Son, Evans City,
7981	Canton Chemical Baker's Special Wheat, Corn & Grass Mixture, 1916.	B. Knoll, Middletown,
8024	Canton Chemical Baker's Special Wheat, Corn & Grass Mixture, 1916.	King Brothers, Uniontown,
7522	Canton Chemical Eagle Phosphate,	A. D. Trexler's Sons, Trexler,
7713	Complete Manure,	Wm. F. Guth, East Macungie,
7754	Complete Manure,	D. E. Miller, Mifflinburg,
7311	Complete Manure,	Pennell Thompson, New London,
7420	Josiah Cope & Co.'s Bono Phosphate,	J. S. Hershberger, Everett,
7569	Josiah Cope & Co.'s Bono Phosphate,	J. N. Walters, Stoyestown,
8052	Josiah Cope & Co.'s Wheat & Grass Special,	Jones Evenson, Christiana,
7230	Josiah Cope & Co.'s Wheat & Grass Special,	M. H. Grove, Bellefonte,
7572	Josiah Cope & Co.'s Wheat & Grass Special,	J. N. Walters, Stoyestown,
7462	Crocker's New Rival Fertilizer, 1916,	Harry Ryland, Cressona,
7568	Detrick's Paragon Ammoniated Phosphate & Potash.	M. W. Fordyce, Somerfield,
7514	W. S. Farmer & Co.'s Branch Diamond Brand Fertilizer.	Albright & Schwoyer, Kempton,
7145	W. S. Farmer & Co.'s Branch Diamond Brand Fertilizer.	W. O. Andrew, McKnightstown,
7881	Great Eastern General, 1916,	Estate of Geo. Snyder, Hatfield,
7657	Ludlam's Cecrops Fertilizer All Crop Fertilizer, 1916.	J. S. Stine, York,
7562	Ludlam's Cecrops Fertilizers No. 2, for Grain and Grass.	N. B. Shober, Garrett,
8069	Michigan Carbon Works Homstead Fertilizer, 1916.	Bovard Hardware Co., Atlantic,
7552	Michigan Carbon Works Red Line Complete Manure.	Ray Mixon, Mill Hall,
7540	Moro-Phillips C. & G. Complete Fertilizer, 1916.	W. F. Leidy, New Hanover,
7640	Moro-Phillips C. & G. Complete Fertilizer, 1916.	C. A. Wainsley, Phoenixville,
8008	Odorless Grass & Lawn Top Dressing, Revised.	F. F. Leonard, Scranton,
7185	Potash Manure,	John Asper, Annville,
7483	Potash Manure.	J. G. Nelson, New Castle,
7253	Royal Potash Mixture,	J. T. Gable, Dallastown,
7435	Royal Potash Mixture,	Irwin Mengle, Mahanoy City,
7995	Sharpless & Carpenter's No. 2 for Grain & Grass.	W. S. Stuart, Carlisle,
7386	Sharpless & Carpenter's No. 2 for Grain & Grass.	Amos G. Yoder, Fleetwood,
7739	Special Complete Fertilizer,	Dover Farmers' Cooperative Association, Dover.
7858	Special Complete Fertilizer,	D. A. Hankey, Parnassus,
7239	Special Complete Fertilizer,	S. Peck & Son, Nittany,
7871	Susueqhanna XXV Phosphate,	A. H. Keeley & Son, Schwenksville,
7628	Susquehanna XXV Phosphate,	J. C. Meirley, Alexandria,
7517	The Pathfinder,	Howard W. Dietrich, Kempton,
7859	The Pathfinder,	D. A. Hankey, Parnassus,
7699	The Pathfinder,	Geo. Itterly, Wind Gap,
7422	Whann's Chester Valley Standard Fertilizer,	Willard Schwalm, Valley View,
7478	Wheeler's Royal Wheat Grower, 1919,	T. J. Minner, Volant,
7480	Williams & Clark's Special Prolific Crop Producer.	C. T. Thompson, Beaver Falls,

COMPLETE FERTILIZERS.

Phosphoric Acid and Potash.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
4.90	1.50	0.82	9.82	9.00	8.51	8.00	1.31	1.00	1.03	1.00	0.65	0.38	29 00	7791
7.79	0.89	0.82	9.34	9.00	8.10	8.00	1.24	1.00	3.91	4.00	3.00	0.91	-------	7317
3.65	1.00	0.82	8.74	8.00	6.83	7.00	1.91	1.00	1.01	1.00	1.01	------	33 00	7844
6.67	1.02	0.82	10.50	10.00	9.14	9.00	1.36	1.00	1.00	1.00	0.50	0.50	29 00	7981
5.02	1.11	0.82	11.44	10.00	9.25	9.00	2.19	1.00	1.14	1.00	1.14	------	35 00	8024
4.96	0.95	0.82	9.03	8.00	6.99	7.00	2.04	1.00	1.12	1.00	------	1.12	28 50	7522
5.60	0.95	0.82	9.82	9.00	8.46	8.00	1.36	1.00	*3.78	4.00	1.95	1.83	36 75	7713
5.85	1.03	0.82	9.39	9.00	8.75	8.00	0.64	1.00	4.05	4.00	1.00	3.05	35 00	7754
7.64	0.93	0.82	9.45	9.00	8.20	8.00	1.25	1.00	*3.50	4.00	2.00	1.50	39 00	7311
8.79	1.05	0.82	9.43	9.00	8.54	8.00	0.89	1.00	2.98	3.00	1.20	1.78	36 00	7420
7.79	0.97	0.82	9.41	9.00	8.29	8.00	1.12	1.00	3.00	3.00	0.90	2.10	36 00	7569
4.07	1.30	0.82	10.00	9.00	8.89	8.00	1.11	1.00	1.06	1.00	------	1.06	31 00	8052
8.84	1.02	0.82	9.27	9.00	8.21	8.00	1.06	1.00	0.91	1.00	------	0.91	27 74	7230
3.23	0.95	0.82	9.66	9.00	8.81	8.00	0.85	1.00	0.95	1.00	0.60	0.35	30 00	7572
2.61	1.29	1.23	10.82	11.00	10.00	10.00	0.82	1.00	1.03	1.00	------	1.03	-------	7462
4.95	1.25	0.82	9.40	8.00	7.23	7.00	2.17	1.00	1.59	1.00	1.59	------	30 00	7568
6.40	1.03	0.82	9.69	9.00	8.07	8.00	1.62	1.00	*1.61	2.00	------	1.61	31 25	7514
8.75	1.15	0.82	9.40	9.00	8.24	8.00	1.16	1.00	2.16	2.00	2.16	------	33 00	7145
3.70	1.00	0.82	10.10	9.00	8.07	8.60	2.03	1.00	1.01	1.00	0.50	0.51	32 00	7881
8.25	1.13	0.82	11.35	11.00	10.05	10.00	1.30	1.00	1.03	1.00	------	1.03	31 42	7657
2.48	1.05	0.82	8.87	8.00	7.57	7.00	1.30	1.00	1.03	1.00	0.50	0.53	29 00	7562
4.60	2.85	2.06	9.12	9.00	7.84	8.00	1.28	1.00	1.05	1.00	0.60	0.45	40 00	8069
5.85	0.97	0.82	9.64	9.00	8.30	8.00	1.34	1.00	1.05	1.00	0.60	0.45	29 50	7552
3.56	1.20	0.82	10.33	9.00	9.25	8.00	1.08	1.00	1.06	1.00	------	1.06	-------	7540
4.96	1.20	0.82	11.20	9.00	9.10	8.00	2.10	1.00	1.18	1.00	0.80	0.38	35 00	7640
2.35	*3.56	3.91	6.49	6.00	5.92	5.00	0.57	1.00	1.24	1.00	------	1.24	52 00	8008
7.33	1.70	1.65	9.20	9.00	8.49	8.00	0.71	1.00	*2.50	3.00	0.90	1.60	-------	7185
6.35	1.80	1.65	10.17	9.00	8.42	8.00	1.75	1.00	2.89	3.00	1.10	1.79	42 00	7483
9.53	1.14	0.82	9.10	9.00	8.03	8.00	1.07	1.00	2.11	2.00	2.11	------	30 00	7253
6.52	0.94	0.82	8.83	9.00	8.35	8.00	0.48	1.00	2.06	2.00	------	2.06	-------	7435
5.10	1.10	0.82	8.65	8.00	7.50	7.00	1.15	1.00	1.03	1.00	1.03	------	26 50	7995
4.89	1.02	0.82	9.11	8.00	7.22	7.00	1.89	1.00	1.13	1.00	0.50	0.63	-------	7386
4.42	1.11	0.82	10.04	9.00	8.65	8.00	1.39	1.00	*1.80	2.00	0.50	1.30	30 60	7739
5.20	1.15	0.82	9.75	9.00	*7.54	8.00	2.21	1.00	2.00	2.00	2.00	------	37 00	7858
6.45	0.92	0.82	9.46	9.00	8.34	8.00	1.12	1.00	*1.52	2.00	------	1.52	34 25	7239
4.52	1.17	0.82	10.37	9.00	8.21	8.00	2.16	1.00	1.00	1.00	0.60	0.40	35 00	7871
6.32	1.08	0.82	9.89	9.00	8.70	8.00	1.19	1.00	*0.78	1.00	------	0.78	-------	7628
5.63	1.33	0.82	9.21	9.00	8.09	8.00	1.12	1.00	*2.10	3.00	0.80	1.30	33 50	7517
4.55	1.05	0.82	9.95	9.00	7.81	8.00	2.14	1.00	3.12	3.00	1.95	1.17	40 00	7859
4.25	1.21	0.82	9.95	9.00	8.66	8.00	1.29	1.00	3.37	3.00	2.00	1.37	35 00	7699
9.06	1.70	1.65	9.63	9.00	8.47	8.00	1.16	1.00	2.87	2.00	------	2.87	-------	7422
5.11	1.13	0.82	10.26	9.00	8.32	8.00	1.94	1.00	1.06	1.00	0.50	0.56	29 00	7478
5.29	1.04	0.82	10.59	9.00	8.31	8.00	2.28	1.00	0.93	1.00	0.60	0.33	31 00	7480

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*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7938	Williams & Clark's Special Prolific Crop Producer.	A. L. Yoder, Ashland,
7743	Zell's Little Treasure,	F. H. Shenberger, Red Lion,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
7648	American Best Grain & Grass Formula,	H. W. Burg, East Prospect,
8057	American Fish & Bone Compound,	Musselman Brothers, New Holland,
7649	American Grain & Grass Grower,	H. W. Burg, East Prospect,
7903	American Premium Grain & Clover Mixture,	Wm. I. Brown, Mill Creek,
7777	American Special Half Per Cent. Formula,	J. B. Rohrer, Port Trevorton,
7274	Ammoniated Crop Compound,	H. W. Burg, East Prospect,
8036	Ammoniated Crop Compound,	John B. Zook, Talmage,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
7783	Armour's Cereal Special No. 1,	M. L. Bachman, Lebanon,
7820	Armour's Cereal Special No. 1,	W. N. Brosha. Antes Fort,
7291	Armour's Cereal Special No. 1,	L. B. Weller, Ligonier,
7784	Armour's Cereal Special No. 2,	M. L. Bachman, Lebanon,
8082	Armour's Cereal Special No. 2,	J. H. Lavely Sons, Franklin,
7289	Armour's Cereal Special No. 2,	L. B. Weller, Ligonier,
8081	Armour's Cereal Special No. 3,	J. H. Lavely Sons, Franklin,
8028	Armour's Cereal Special No. 3,	Washington Milling Co., Washington,
7290	Armour's Cereal Special No. 3,	L. B. Weller, Ligonier,
7198	Armour's Royal Ammoniated Fertilizer,	M. L. Bachman, Lebanon,
7194	Armour's Royal Ammoniated Fertilizer,	H. D. Marberger, Rehrersburg,
7856	Armour's Royal Ammoniated Fertilizer,	W. F. Smith, Mt. Pleasant,
7707	Crop Grower, 1-8-2,	John H. Singmaster, Macungie,
7279	Grain Grower, 2-8-2,	McFarland Supply Co., Greensburg,
7710	Wheat, Corn & Oats Special, 1-7-1,	J. H. Singmaster, Macungie,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
7566	Baugh's Animal Base & Potash Compound,	Samuel Baer, Sand Patch,
7307	Baugh's Animal Base & Potash Compound,	Morris & Clarence Bunting, Oxford,
7529	Baugh's Balanced Plant Food,	A. G. Houtz, Myerstown,
7459	Baugh's Balanced Plant Food,	Nathan Huntzinger, Snyders,
7138	Baugh's Balanced Plant Food,	C. C. Myers, Gardners,
7610	Baugh's Double Eagle Phosphate,	Francis Baker, Everett,
7599	Baugh's Double Eagle Phosphate,	H. B. Low & Son, Orangeville,
7653	Baugh's Double Eagle Phosphate,	J. P. Shuchart, New Freedom,
7757	Baugh's Durable Plant Food,	Joshua Bingaman, Middleburg,
7297	Baugh's General Crop Grower for all Crops,	Edw. W. Brinton & Son, West Chester,
7237	Baugh's General Crop Grower for all Crops,	John Eby, Zion,
8019	Baugh's General Crop Grower for all Crops,	St. Josephs Place, Mt. Cobb,
7977	Baugh's Special Vegetable Compound,	M. B. Brandt, Buchmansville,
7998	Baugh's Special Vegetable Compound,	S. E. Shenk & Sons, Newville,
7768	Baugh's Special Vegetable Compound,	Yerger Brothers, Middleburg,
7773	Baugh's Valley Special,	Geo. N. Wentzel, Port Trevorton,
	THE BERG COMPANY, PHILADELPHIA, PA.	
7875	Berg's Bone & Potash Guano,	H. B. Kratz, Schwenksville,
7876	Berg's Vigor Volo Bone Manure,	H. B. Kratz, Schwenksville,
	BOWKER FERTILIZING COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL COMPANY, NEW YORK, N. Y.	
8003	Bowker's Farm & Garden Phosphate, Revised 1916.	James Wordell, Gouldsboro,
7928	Bowker's Standard Phosphate,	Wm. Lutz, Beach Haven,
7495	Bowker's Staple Phosphate, 1916,	J. Dymond, Waymarth,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
2.95	1.03	0.82	10.08	9.00	7.95	8.00	2.13	1.00	1.03	1.00	0.70	0.33	------	7938
5.97	1.10	0.82	9.71	8.00	8.45	7.00	1.26	1.00	1.03	1.00	1.03	------	27 00	7743
6.45	1.93	1.65	12.17	11.00	10.70	10.00	1.47	1.00	*3.70	4.00	1.60	2.10	42 00	7643
4.70	1.83	1.65	8.89	9.00	7.96	8.00	0.93	1.00	3.62	3.00	0.60	3.02	38 00	8057
9.50	1.13	0.82	10.69	10.00	9.47	9.00	1.22	1.00	2.89	3.00	1.10	1.79	34 00	7649
3.85	2.43	1.65	12.50	13.00	12.03	12.00	0.47	1.00	2.44	2.00	0.65	1.79	38 00	7903
4.82	1.10	0.41	9.89	9.00	8.46	8.00	1.43	1.00	1.36	0.50	0.60	0.76	29 00	7777
9.09	1.14	0.82	9.57	9.00	8.26	8.00	1.31	1.00	2.10	2.00	1.05	1.05	31 00	7274
3.02	1.20	0.82	9.16	9.00	8.80	8.00	0.36	1.00	2.25	2.00	------	2.25	28 57	8036
7.70	1.52	1.65	11.23	10.50	10.89	10.00	0.34	0.50	*5.78	6.00	4.80	0.98	-------	7783
8.62	2.05	1.65	10.91	10.50	*9.76	10.00	1.15	0.50	*5.68	6.00	4.30	1.38	49 90	7820
11.02	1.87	1.65	10.87	10.50	*9.57	10.00	1.30	0.50	6.04	6.00	4.80	1.24	55 00	7291
6.05	2.07	1.65	11.10	10.50	10.40	10.00	0.70	0.50	4.53	4.00	4.10	0.43	-------	7784
5.07	2.64	1.65	11.00	10.50	10.03	10.00	0.97	0.50	*2.83	4.00	2.83	------	43 50	8082
8.92	1.92	1.65	10.80	10.50	9.86	10.00	0.94	0.50	4.09	4.00	4.09	------	50 00	7289
4.72	1.93	1.65	12.05	12.50	*11.21	12.00	0.84	0.50	1.98	2.00	1.70	0.28	46 50	8081
5.05	2.13	1.65	13.75	12.50	*11.15	12.00	2.60	0.50	2.31	2.00	1.10	1.21	43 25	8028
6.41	1.73	1.65	13.38	12.50	12.30	12.00	1.08	0.50	2.69	2.00	2.69	------	46 00	7290
7.79	0.85	0.82	9.18	8.50	8.53	8.00	0.65	0.50	4.24	4.00	2.45	1.79	-------	7198
6.40	2.14	0.82	9.80	8.50	8.49	8.00	1.31	0.50	*3.72	4.00	0.85	2.87	-------	7194
7.35	0.85	0.82	8.99	8.50	8.14	8.00	0.85	0.50	4.11	4.00	2.10	2.01	43 00	7856
5.00	1.20	0.82	8.42	8.50	7.81	8.00	0.61	0.50	2.27	2.00	1.90	0.37	33 00	7707
4.68	1.90	1.65	9.25	8.50	*7.31	8.00	1.94	0.50	*1.78	2.00	0.90	0.88	40 00	7279
4.65	1.28	0.82	9.39	7.50	8.28	7.00	1.11	0.50	1.30	1.00	------	1.30	29 00	7710
5.50	1.13	1.02	11.57	10.00	*8.78	10.00	2.79	-------	2.11	2.00	0.80	1.31	34 25	7566
6.00	1.48	1.02	12.17	10.00	*9.16	10.00	3.01	-------	*1.56	2.00	0.80	0.76	39 00	7307
9.79	2.00	1.65	8.92	8.00	8.58	8.00	0.34	-------	4.92	5.00	4.92	------	46 00	7529
9.79	1.70	1.65	9.50	8.00	8.85	8.00	0.65	-------	*4.56	5.00	4.56	------	35 00	7459
8.62	1.74	1.65	10.59	8.00	8.34	8.00	2.25	-------	*4.44	5.00	3.10	1.34	43 25	7138
5.34	1.99	1.65	10.91	8.50	8.49	8.50	2.42	-------	1.10	1.00	0.60	0.50	35 00	7610
5.90	1.90	1.65	11.29	8.50	9.50	8.50	1.79	-------	1.18	1.00	0.70	0.48	34 50	7599
4.82	1.93	1.65	11.61	8.50	8.65	8.50	2.96	-------	1.14	1.00	0.85	0.29	35 00	7653
4.10	1.97	1.65	10.79	8.00	8.77	8.00	2.02	-------	*1.67	2.00	0.75	0.92	38 50	7757
7.75	1.05	0.82	9.34	8.00	8.55	8.00	0.79	-------	1.09	1.00	0.70	0.39	28 00	7297
6.08	1.14	0.82	9.50	8.00	8.58	8.00	0.92	-------	0.82	1.00	0.40	0.42	28 25	7237
1.75	1.03	0.82	9.35	8.00	8.42	8.00	0.93	-------	1.14	1.00	------	1.14	56 00	8019
8.45	1.21	0.82	10.00	9.00	9.30	9.00	0.79	-------	*2.77	3.00	2.77	------	-------	7977
3.67	1.20	0.82	11.08	9.00	9.61	9.00	1.47	-------	3.02	3.00	1.70	1.32	35 00	7998
5.27	1.48	0.82	10.47	9.00	9.11	9.00	1.36	-------	*2.77	3.00	2.77	------	33 50	7768
5.75	1.28	1.02	12.73	10.00	10.45	10.00	2.28	-------	2.11	2.00	1.10	1.01	33 00	7773
7.55	1.48	1.65	15.84	14.50	9.92	10.00	5.92	4.50	2.13	2.00	1.80	0.33	41 00	7875
6.25	2.48	2.00	14.53	13.00	7.57	7.00	6.96	6.00	1.45	1.00	0.95	0.50	37 00	7876
2.42	2.08	1.65	11.07	10.00	10.20	9.00	0.87	1.00	0.97	1.00	0.60	0.37	41 00	8003
3.87	1.86	1.65	10.23	9.00	8.97	8.00	1.26	1.00	2.03	2.00	1.15	0.88	33 00	7928
4.43	1.08	0.82	9.10	9.00	8.02	8.00	1.08	1.00	1.32	1.00	0.50	0.82	38 00	7495

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*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE CENTRAL CHEMICAL COMPANY (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
7759	C. C. C. Crown Jewel,	Ernest Bowersox, Beaver Springs,
7398	C. C. C. Crown Jewel,	H. E. Mason, Osterburg,
7576	C. C. C. Crown Jewel,	E. S. Thomas, Holsopple,
7364	C. C. C. Fish Bone & Potash,	N. G. Adams, Paxinos,
7953	C. C. C. Grain & Grass Grower,	M. R. Brumbaugh & Son, Martinsburg,
7559	C. C. C. Grain & Grass Grower,	Lloyd Hay, Meyersdale,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7613	E. Frank Coe's Columbia Corn & Potato Fertilizer.	Geo. Ward & Wm. Morris, Clearville,
7437	E. Frank Coe's New Englander Special, 1916.	Adam Heberling, Tower City,
7367	E. Frank Coe's Western New Yorker,	W. G. Beaver, Catawissa,
7245	E. Frank Coe's Western New Yorker,	A. B. Myer, Coburn,
7612	E. Frank Coe's Western New Yorker,	Geo. Ward & Wm. Morris, Clearville,
	COLUMBIA GUANO COMPANY, BALTIMORE, MD.	
7342	Columbia Crop Guano,	H. C. Baker, Allenwood,
7343	Columbia Special Grain Guano,	H. C. Baker, Allenwood,
7431	Columbia Winter Wheat Guano,	Geo. Boyer, Pine Grove,
7379	Columbia Winter Wheat Guano,	John P. Fisher, Douglassville,
	CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
7721	Consumers Ammoniated Potash Compound,	F. J. Remaley, Slatington,
7551	Consumers Pure Sure Plant Food,	E. H. Hays, Clintondale,
7361	Consumers Pure Sure Plant Food,	Willis Koch, Pottsgrove,
7445	Consumers Pure Sure Plant Food,	L. A. Steigerwalt, Freidensburg,
	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA.	
7851	DuBois Grain Grower, 1919,	Mars Milling & Feed Co., Mars,
	EUREKA CHEMICAL COMPANY, BALTI MORE, MD.	
8030	Eureka Fish & Potash No. 1,	A. M. Frederick, Fairchance,
7128	Eureka Fish & Potash No. 1,	N. E. Gobrecht & Brother, Hanover,
7910	Eureka Fish & Potash No. 1,	W. H. Nesbit, McConnellsburg,
7129	Eureka Grain & Grass,	N. E. Gobrecht & Brother, Hanover,
7272	Eureka Grain & Grass,	Josiah Haugh, Windsor,
7913	Eureka Grain & Grass,	W. H. Nesbit, McConnellsburg,
	THE EUREKA FERTILIZER COMPANY, LANCASTER, PA.	
7797	No. 3 Potato & Vegetable,	Harvey Gernert, Myerstown,
7792	No. 3 Potato & Vegetable,	P. C. Kline, Brumerville,
	FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.	
7665	Pride of Donegal,	Albert T. Heltzel, York,
8056	Special Compound,	I. B. Graybill, Refton,
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
7236	Cereal Plant Food,	J. T. Beckwith, Port Matilda,
7352	Cereal Plant Food,	Hartley & Blaine, Turbotville,
7668	Cereal Plant Food,	Geo. A. Wolf & Son, Mt. Wolf,
7171	Fish & Potash Guano,	S. K. Chambers & Brother, Elkview,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
4.42	1.10	0.82	9.76	-------	9.06	9.00	0.70	-------	3.41	3.00	3.41	------	34.54	7759
7.09	1.19	0.82	9.59	-------	*8.72	9.00	0.87	-------	*2.48	3.00	2.48	------	37 00	7398
6.50	1.03	0.82	11.72	-------	10.53	9.00	1.19	-------	*1.80	3.00	1.50	0.30	36 00	7576
5.89	0.95	1.02	9.13	-------	8.34	8.00	0.79	-------	0.83	1.00	0.50	0.33	32 00	7364
6.22	*0.79	1.65	13.20	-------	12.19	12.00	1.01	-------	1.81	2.00	------	1.81	42 00	7953
6.03	1.86	1.65	12.60	-------	*11.38	12.00	1.22	-------	*1.60	2.00	1.60	------	-------	7559
5.08	1.45	1.23	11.77	11.00	10.72	10.00	1.05	1.00	1.09	1.00	------	1.09	-------	7613
5.24	0.85	0.82	10.36	9.00	8.28	8.00	2.08	1.00	0.85	1.00	0.50	0.35	30 00	7437
8.07	1.03	0.82	9.25	9.00	8.31	8.00	0.94	1.00	*3.80	4.00	2.30	1.50	34 00	7367
8.76	1.18	0.82	9.08	9.00	8.47	8.00	0.61	1.00	4.16	4.00	1.05	3.11	38 25	7245
7.20	1.18	0.82	9.50	9.00	8.65	8.00	0.85	1.00	4.15	4.00	2.10	2.05	38 50	7612
6.60	1.14	0.82	11.37	8.50	9.78	8.00	1.59	0.50	*3.65	4.00	0.50	3 15	36 84	7342
5.72	1.02	0.82	10.61	8.50	8.36	8.00	2.25	0.50	1.62	2.00	------	1.62	31 09	7343
7.52	0.96	0.82	12.07	9.50	10.35	9.00	1.72	0.50	*2.80	3.00	------	2.80	-------	7431
6.37	1.17	0.82	11.61	9.50	9.91	9.00	1.70	0.50	*2.79	3.00	------	2.79	36 75	7379
6.87	0.80	0.41	10.46	9.00	9.92	8.00	0.54	1.00	1.50	1.00	------	1.50	25 00	7721
6.17	0.78	0.82	10.17	9.00	9.52	8.00	0.65	1.00	1.48	1.00	------	1.48	29 00	7551
6.77	0.89	0.82	9.53	9.00	8.33	8.00	1.20	1.00	1.08	1.00	------	1.08	29 00	7361
5.90	0.82	0.82	10.22	9.00	8.96	8.00	1.26	1.00	1.09	1.00	------	1.09	32 50	7445
3.17	1.00	0.82	10.05	7.30	8.32	7.00	1.73	0.30	1.65	1.00	0.50	1.15	32 00	7851
2.20	0.75	0.41	8.36	8.50	7.93	8.00	0.43	0.50	1.22	1.00	1.22	------	30 00	8030
4.72	0.73	0.41	10.19	8.50	9.55	8.00	0.64	0.50	1.27	1.00	1.27	------	26 25	7128
3.32	0.78	0.41	9.15	8.50	8.17	8.00	0.98	0.50	1.14	1.00	1.14	------	26 45	7910
4.89	0.87	0.82	9.10	8.50	8.44	8.00	0.66	0.50	1.09	1.00	1.09	------	28 50	7129
5.01	0.90	0.82	8.50	8.50	*7.54	8.00	0.96	0.50	0.93	1.00	0.93	------	29 50	7272
3.07	1.08	0.82	9.44	8.50	8.66	8.00	0.78	0.50	1.16	1.00	1.16	------	28 00	7913
5.32	1.45	1.23	9.89	9.00	8.40	8.00	1.49	1.00	1.86	2.00	1.86	------	-------	7797
7.57	1.40	1.23	10.69	9.00	9.16	8.00	1.53	1.00	1.92	2.00	1.92	------	36 75	7792
9.87	*1.35	1.65	8.00	8.00	7.26	7.00	0.74	1.00	3.59	3.00	3.59	------	38 00	7665
7.85	0.92	0.82	8.89	9.00	8.32	8.00	0.57	1.00	2.50	2.00	2.50	------	30 25	8056
7.47	1.10	0.82	9.98	9.00	8.58	8.00	1.40	1.00	0.96	1.00	0.15	0.81	32 00	7236
7.75	0.98	0.82	10.24	9.00	8.56	8.00	1.68	1.00	0.98	1.00	------	0.98	29 00	7352
5.29	1.08	0.82	10.84	9.00	8.10	8.00	2.74	1.00	0.89	1.00	------	0.89	28 00	7668
9.96	*1.20	1.45	9.57	8.00	8.77	7.00	0.80	1.00	2.95	3.00	------	2.95	[illegible]	7171

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*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7324	Fish & Potash Guano,	C. G. Kleckner, Millmont,
7585	Fish & Potash Guano,	E. L. White, Danville,
7798	Fish Bone & Potash,	A. L. Hartman, Schaefferstown,
7861	Fish Bone & Potash,	L. & F. Hoburg, Etna,
7371	Fish Bone & Potash,	F. E. Houck, Catawissa,
7329	Harvest Queen Phosphate,	R. M. Arbogast, Winfield,
7525	Harvest Queen Phosphate,	John I. Clay, Palmyra,
7747	Harvest Queen Phosphate,	D. W. Gehley, York,
7358	Peerless Fertilizer,	J. S. Artley, Muncy,
7524	Peerless Fertilizer,	John I. Clay, Palmyra,
7323	Peerless Fertilizer,	C. G. Kleckner, Millmont,
7132	Peerless Fertilizer,	D. H. Shearer & Son, New Oxford,
7799	Special Formula,	A. L. Hartman, Schaefferstown,
7328	Special Guano,	F. I. Mays, Winfield,
7133	Special Guano,	D. H. Shearer, New Oxford,
7359	Special Royal Potash Guano,	J. S. Artley, Muncy,
7243	Special Royal Potash Guano,	H. S. Limbert, Center Hall,
7330	Standard Guano,	R. M. Arbogast, Winfield,
	S. M. HESS & BROTHER, INC., PHILADELPHIA, PA.	
7201	Ammoniated Super Phosphate, 1916,	J. W. Frantz, Mt. Aetna,
7972	Farmers General Fertilizer, 1916,	Emanuel Kline, Union Deposit,
7197	Farmers General Fertilizer, 1916,	J. H. Shenk, Linglestown,
7179	Fish & Potash Manure, 1916,	J. H. Shenk, Linglestown,
7829	Keystone Phosphate,	Arthur Gelnett, Meiserville,
7474	Keystone Phosphate,	J. H. Johnston, New Wilmington,
7703	Keystone Phosphate,	Geo. H. Schoden, Catasauqua,
7737	Special Compound,	O. J. Prowell, Cly,
7702	Special Compound,	Geo. H. Schoden, Catasauqua,
7195	Special Compound,	J. H. Shenk, Linglestown,
7736	Special Wheat Fertilizer,	O. J. Prowell, Cly,
7180	Special Wheat Fertilizer,	J. H. Shenk, Linglestown,
7335	Special Wheat Fertilizer,	T. E. Spangler, Lewisburg,
7853	Wheat & Grass Manure, 1916,	Geo. H. Baker, Valencia,
7878	Wheat & Grass Manure, 1916,	J. M. Hiltebeitel, Green Lane,
7971	Wheat & Grass Manure, 1916,	Emanuel Kline, Union Deposit,
	M. P. HUBBARD CO., INC., BALTIMORE, MD.	
7252	Hubbard's Celebrated Phosphate for General Use.	Henry Blessing, York,
8054	Hubbard's Excelsior Phosphate,	A. L. Herr & Brother, Quarryville,
7251	Hubbard's Fish Phosphate & Potash,	Henry Blessing, York,
7774	Hubbard's Good & Cheap Compound,	F. A. Bingaman, Port Trevorton,
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
7654	Hubbard's Farmers' IXL,	Kreitz Creek Farmers' Cooperative Association, York.
7655	Hubbard's ¼-7-2 Fertilizer,	Kreitz Creek Farmers' Cooperative Association, York.
7752	Hubbard's 1-8-3 Fertilizer,	Jos. Fulton Sons Co., Stewartstown,
7530	Hubbard's 1-8-3 Fertilizer,	J. R. Meck, Meckville,
	INTERNATIONAL AGRICULTURAL CORPORATION (BUFFALO FERTILIZER WORKS), BUFFALO, N. Y.	
7939	Buffalo Tip Top,	Peffer & Son, Punxsutawney,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
6.15	1.89	1.45	9.54	8.00	8.05	7.00	1.49	1.00	3.23	3.00	0.60	2.63	36 50	7324
6.47	1.73	1.45	9.66	8.00	8.04	7.00	1.62	1.00	3.18	3.00	0.90	2.28	37 50	7585
7.30	1.57	1.45	9.81	8.00	8.83	7.00	0.98	1.00	1.18	1.00	------	1.18	32 00	7798
6.90	*1.25	1.45	9.85	8.00	8.34	7.00	1.51	1.00	1.09	1.00	------	1.09	40 00	7861
10.75	*1.25	1.45	9.99	8.00	8.83	7.00	1.16	1.00	1.91	1.00	------	1.91	36 50	7371
10.67	0.95	0.82	10.33	10.00	9.64	9.00	0.69	1.00	1.02	1.00	1.02	------	28 75	7329
7.56	0.98	0.82	10.59	10.00	9.60	9.00	0.99	1.00	1.34	1.00	------	1.34	------	7525
6.42	1.23	0.82	10.46	10.00	9.91	9.00	0.55	1.00	1.47	1.00	1.47	------	29 00	7747
6.85	0.67	0.41	9.52	9.00	8.68	8.00	0.84	1.00	1.34	1.00	------	1.34	28 00	7358
8.12	0.78	0.41	9.64	9.00	8.13	8.00	0.91	1.00	1.34	1.00	1.34	------	------	7524
8.55	0.72	0.41	10.08	9.00	8.55	8.00	1.53	1.00	1.14	1.00	1.14	------	27 00	7323
8.64	0.63	0.41	10.84	9.00	9.26	8.00	1.58	1.00	1.09	1.00	1.09	------	------	7132
8.37	1.63	1.65	11.28	11.00	10.59	10.00	0.69	1.00	3.90	4.00	3.90	------	44 50	7799
8.83	1.47	1.65	10.23	9.00	8.97	8.00	1.26	1.00	4.82	5.00	0.90	3.92	44 75	7328
10.53	1.63	1.65	9.77	9.00	9.12	8.00	0.65	1.00	*3.42	5.00	3.42	------	44 15	7133
7.76	1.13	0.82	9.50	9.00	8.66	8.00	0.84	1.00	3.09	3.00	1.00	2.09	38 00	7359
9.28	0.88	0.82	9.50	9.00	8.81	8.00	0.69	1.00	3.04	3.00	3.04	------	35 40	7243
10.13	1.88	1.65	13.67	13.00	12.60	12.00	1.07	1.00	2.17	2.00	------	2.17	38 50	7330
10.10	1.89	1.65	9.63	10.00	9.04	9.00	0.59	1.00	1.09	1.00	------	1.09	------	7201
5.55	1.06	0.82	10.78	11.00	9.81	10.00	0.97	1.00	1.00	1.00	0.40	0.60	31 50	7972
7.07	1.10	0.82	10.72	11.00	9.88	10.00	0.84	1.00	1.01	1.00	------	1.01	31 00	7197
12.07	1.58	1.65	10.23	10.00	9.15	9.00	1.08	1.00	1.00	1.00	------	1.00	------	7179
4.00	1.39	0.82	9.80	9.00	8.97	8.00	0.83	1.00	1.03	1.00	------	1.03	30 00	7829
5.15	1.17	0.82	10.46	9.00	8.46	8.00	2.00	1.00	0.84	1.00	0.50	0.34	28 75	7474
4.22	0.93	0.82	10.14	9.00	9.11	8.00	1.03	1.00	1.03	1.00	1.03	------	30 50	7703
8.82	0.99	0.82	9.10	9.00	8.14	8.00	0.96	1.00	4.00	4.00	4.00	------	36 50	7737
4.17	1.30	0.82	10.20	9.00	8.95	8.00	1.25	1.00	4.22	4.00	2.50	1.72	38 00	7702
7.33	0.92	0.82	8.89	9.00	*7.61	8.00	1.28	1.00	*2.32	4.00	2.00	1.32	27 50	7195
6.05	1.17	0.82	9.48	9.00	8.54	8.00	0.94	1.00	2.21	2.00	------	2.21	31 00	7736
7.37	1.20	0.82	10.14	9.00	9.18	8.00	0.96	1.00	*1.74	2.00	0.60	1.14	------	7180
6.03	0.93	0.82	9.82	9.00	8.58	8.00	1.24	1.00	*1.45	2.00	0.60	0.85	31 50	7335
4.95	1.03	0.82	12.14	10.00	10.04	9.00	2.10	1.00	1.03	1.00	1.03	------	32 50	7553
2.92	1.08	0.82	11.16	10.00	9.03	9.00	2.13	1.00	0.85	1.00	0.50	0.25	34 00	7878
4.32	1.19	0.82	11.21	10.00	9.26	9.00	1.95	1.00	1.08	1.00	0.55	0.53	30 50	7971
6.53	1.91	1.65	9.91	9.00	9.22	8.00	0.69	1.00	1.88	2.00	0.50	1.38	33 75	7252
4.00	1.01	0.82	9.29	9.00	7.98	8.00	1.31	1.00	2.46	2.00	0.50	1.96	31 00	8054
5.79	1.03	0.82	8.04	8.00	7.48	7.00	0.56	1.00	2.96	3.00	0.60	2.36	30 90	7251
4.05	1.30	0.82	8.33	9.00	7.83	8.00	0.50	1.00	1.24	1.00	------	1.24	31 00	7774
5.73	1.63	1.64	9.31	9.00	8.24	8.00	1.07	1.00	2.23	2.00	2.23	------	33 84	7654
6.63	0.41	0.21	11.10	8.00	10.07	7.00	1.03	1.00	1.92	2.00	1.92	------	24 87	7655
3.17	1.24	0.82	9.59	9.00	8.40	8.00	1.19	1.00	*2.50	3.00	2.50	------	34 50	7752
5.24	1.35	0.82	9.63	9.00	8.69	8.00	0.94	1.00	*2.14	3.00	2.14	------	34 75	7530
2.82	0.98	0.80	10.14	9.00	8.26	8.00	1.88	1.00	2.36	2.00	2.36	------	35 00	7929

*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.	
7447	Keystone Excelsior Wheat Grower,	W. A. Buck, Palmerton,
7696	Keystone Excelsior Wheat Grower,	James Gernett, Nazareth,
7521	Keystone Excelsior Wheat Grower,	A. D. Trexler's Sons, Trexler,
7395	Keystone General Manure,	R. D. Oberholtzer, Elverson,
7955	Keystone Grain & Grass Manure,	Chas. H. Ebner, Easton,
7439	Keystone Grain & Grass Manure,	Chas. Schofstall, Valley View,
7381	Keystone Grain & Grass Manure,	Joel Yeager, Shoemakersville,
	KOLLER FERTILIZER CO., SEITZLAND, PA.	
7269	Koller's Ammoniated Phosphate,	John Sheffer, Red Lion,
8059	Koller's Special Potato Grower Phosphate,	Koller Fertilizer Co., Seitzland,
7271	Koller's Special Potato Grower Phosphate,	John Shaffer, Red Lion,
	THE LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.	
7904	Tobacco & Potato Compound,	Clair Smith, Mill Creek,
	THE LANCASTER CHEMICAL CO., LANCASTER, PA.	
7622	No. 2 Dewey Brand,	Adam Beach, New Enterprise,
	THE LEBANON FERTILIZER WORKS, LEBANON, PA.	
7348	Levan's General Crop Grower Fertilizer,	Mahoning Grange, Danville,
7383	Levan's Royal Potash Compound Fertilizer,	A. F. Baver, Hamburg,
7467	Levan's Royal Potash Compound Fertilizer,	Hegins Grange, Hegins,
7347	Levan's Special Corn & Wheat Fertilizer,	Mahoning Grange, Danville,
7767	Levan's Special Corn & Wheat Fertilizer,	Calvin Sauer, Kreamer,
	LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
7662	Lister's A. B. C. Fertilizer (Abundance Brand Compound).	W. L. Mitzel, Red Lion,
7332	Lister's A. B. C. Fertilizer (Abundance Brand Compound).	C. M. Saunders, Vicksburg,
7533	Lister's Ammoniated Dissolved Superphosphate, 1916.	J. M. Groh, Lickdale,
8075	Lister's 1-8-3 Fertilizer,	J. R. Hanks, Springboro,
7661	Lister's 1-8-3 Fertilizer,	W. L. Mitzel, Red Lion,
7486	Lister's 1-8-3 Fertilizer,	D. E. Stevenson, Grove City,
7663	Lister's 2-8-3 Fertilizer,	W. L. Mitzel, Red Lion,
7134	Lister's G. Brand,	W. H. Strock, New Oxford,
8041	Lister's Harvest Queen Phosphate, 1916,	Geo. Bard, Leacock,
7246	Lister's Harvest Queen Phosphate, 1916,	Adam Bartges, Millheim,
7734	Lister's Harvest Queen Phosphate, 1916,	W. H. Schriver, Dillsburg,
8044	Lister's King Bee Fertilizer,	Ira Hershey, Gap,
7424	Lister's Special Crop Producer, 1916,	John Boyer, Klingerstown,
7885	Lister's Special Wheat Fertilizer, 1916,	W. H. Fritz, Berwyn,
7606	Lister's Special Wheat Fertilizer, 1916,	Zehner Brothers, Bloomsburg,
7388	Lister's Squirrel Brand Fertilizer, 1916,	Amos Breidegam, Oley,
8074	Lister's Success Fertilizer, 1916,	J. R. Hank, Springboro,
7887	Lister's U. S. Super Phosphate, 1916,	W. H. Fritz, Berwyn,
7355	Lister's U. S. Super Phosphate, 1916,	B. Savidge, Turbotville,
	THE MAPES FORMULA & PERUVIAN GUANO CO., NEW YORK, N. Y.	
7636	Mapes Grain Brand,	Jos. R. Taggart, Norristown,
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
7755	Martin's Sure Grower,	C. L. Bowersox, Middleburg,
7539	Martin's Sure Grower,	S. Koch, Fleetwood,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
7.31	1.08	0.82	9.90	9.00	8.10	8.00	1.80	1.00	4.23	4.00	4.23	------	40 00	7447
6.52	1.53	0.82	9.11	9.00	*7.17	8.00	1.94	1.00	4.13	4.00	4.13	------	34 50	7696
8.47	0.90	0.82	10.87	9.00	8.97	8.00	1.90	1.00	*3.76	4.00	3.76	------	38 25	7521
6.96	1.18	0.82	10.22	9.00	8.61	8.00	1.61	1.00	3.00	2.00	3.00	------	-------	7395
4.92	1.20	0.82	8.71	8.00	7.54	7.00	1.17	1.00	1.10	1.00	1.10	------	27 50	7955
7.97	0.85	0.82	9.06	8.00	7.84	7.00	1.22	1.00	1.34	1.00	0.90	0.44	29 00	7439
7.90	1.10	0.82	8.23	8.00	7.04	7.00	1.19	1.00	3.74	1.00	3.74	------	-------	7381
11.16	0.87	0.82	9.98	8.50	8.13	8.00	1.85	0.50	1.14	1.00	1.14	------	27 50	7269
5.02	2.42	0.82	12.78	7.50	7.49	7.00	5.29	0.50	2.97	3.00	2.97	------	30 75	8059
9.63	0.95	0.82	8.67	7.50	7.18	7.00	1.49	0.50	*2.35	3.00	2.35	------	32 50	7271
4.42	1.18	0.82	10.40	10.00	9.34	9.00	1.06	1.00	*2.75	3.00	2.75	------	37 00	7904
11.26	*0.90	1.23	14.01	9.00	11.82	8.00	2.19	1.00	*0.49	1.00	------	0.49	-------	7622
3.13	1.02	0.82	9.11	8.00	*5.87	7.00	3.24	1.00	1.20	1.00	------	1.20	25 60	7348
4.45	1.70	1.65	10.50	9.00	8.75	8.00	1.75	1.00	2.10	2.00	------	2.10	36 00	7383
4.90	1.57	1.65	9.02	9.00	*6.09	8.00	2.93	1.00	2.03	2.00	------	2.03	35 00	7467
6.32	0.75	0.82	10.65	9.00	8.01	8.00	2.04	1.00	*1.79	2.00	------	1.79	29 65	7347
3.27	0.89	0.82	10.01	9.00	*7.46	8.00	2.55	1.00	*1.66	2.00	------	1.66	30 00	7767
7.35	1.94	1.65	14.20	13.00	12.17	12.00	2.03	1.00	2.21	2.00	0.70	1.51	39 50	7662
6.87	1.94	1.65	13.22	13.00	12.42	12.00	0.80	1.00	2.08	2.00	1.60	0.48	40 00	7332
6.15	2.33	2.06	9.57	9.00	7.95	8.00	1.62	1.00	0.93	1.00	------	0.93	37 50	7531
4.80	1.33	0.82	10.97	9.00	9.34	8.00	1.63	1.00	3.06	3.00	1.80	1.26	36 20	8075
5.37	1.14	0.82	9.38	9.00	8.41	8.00	0.97	1.00	*2.77	3.00	2.77	------	34 30	7664
7.84	1.48	0.82	9.67	9.00	8.48	8.00	1.19	1.00	3.88	3.00	3.88	------	34 00	7486
5.80	1.95	1.65	9.12	9.00	8.25	8.00	0.87	1.00	3.00	3.00	3.00	------	39 00	7663
8.80	1.02	0.82	9.13	9.00	8.40	8.00	0.73	1.00	4.26	4.00	1.50	2.76	-------	7134
5.99	1.81	1.23	11.08	11.00	9.94	10.00	1.14	1.00	1.06	1.00	------	1.06	34 00	8041
8.05	1.50	1.23	11.19	11.00	10.20	10.00	0.09	1.00	*0.78	1.00	0.25	0.53	-------	7246
4.35	1.62	1.23	11.44	11.00	10.55	10.00	0.89	1.00	1.24	1.00	------	1.24	35 00	7734
5.75	1.71	1.65	10.65	11.00	*9.25	10.00	1.40	1.00	*2.90	4.00	2.90	------	41 00	8044
7.15	1.02	0.82	9.02	9.00	8.00	8.00	1.02	1.00	0.93	1.00	------	0.93	28 00	7424
4.60	2.48	2.06	10.37	9.00	9.02	8.00	1.35	1.00	0.85	1.00	0.85	------	40 00	7885
4.39	2.19	2.06	9.58	9.00	8.20	8.00	1.38	1.00	0.95	1.00	------	0.95	39 00	7606
6.89	1.15	0.82	9.76	9.00	8.36	8.00	1.40	1.00	1.22	1.00	0.80	0.42	-------	7388
6.52	1.87	1.23	12.45	11.00	10.24	10.00	2.21	1.00	1.16	1.00	0.60	0.56	34 00	8074
5.30	1.67	1.23	12.23	11.00	10.72	10.00	1.51	1.00	1.01	1.00	0.70	0.31	36 00	7887
8.23	1.53	1.23	11.11	11.00	10.12	10.00	0.99	1.00	1.11	1.00	------	1.11	32 75	7355
11.42	1.89	1.65	9.57	10.00	*4.03	8.00	5.54	2.00	*1.12	2.00	0.70	0.42	42 00	7636
3.74	0.90	0.82	11.54	9.00	9.50	8.00	2.04	1.00	*0.70	1.00	------	0.70	28 10	7755
6.35	0.93	0.82	12.31	9.00	9.62	8.00	2.69	1.00	2.02	1.00	0.50	1.52	-------	7539

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*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
7978	Club Brand,	John Shiffer, Hershey,
7140	Harvest Queen,	Biglerville Warehouse Co., Biglerville,
7742	Harvest Queen,	F. H. Shenberger, Red Lion,
7570	Harvest Queen,	J. N. Walters, Stoyestown,
7802	Miller's Clermont,	C. R. Bucher, Myerstown,
7334	Miller's Clermont,	G. L. Schell, Vicksburg,
7186	Miller's Clermont,	N. R. Yost, Myerstown,
7336	Miller's Wheat & Grass Grower,	Francis T. Baker, Lewisburg,
7182	Miller's Wheat & Grass Grower,	W. Clark Kinney, Annville,
7979	No. 1 Ammoniated,	John Shiffer, Hershey,
7515	No. 1 Hustler Phosphate,	Albright & Schwoyer, Kempton,
7980	No. 1 Hustler Phosphate,	John Shiffer, Hershey,
7571	No. 1 Hustler Phosphate,	J. N. Walters, Stoyestown,
7178	Standard Phosphate,	John Shiffer, Hershey,
	NASSAU FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7511	Wheat & Grass Grower, 1916,	J. Chamberland, Thornhurst,
	G. OBER & SONS CO., BALTIMORE, MD.	
7838	Ober's Farmers Mixture,	Wm. Atkinson, McVeytown,
7373	Ober's Farmers Mixture,	Harvey Gernet, Myerstown,
7804	Ober's Farmers Mixture,	Ammon Krall, Lebanon,
7976	Ober's Independent Ammoniated Super Phosphate.	J. A. Landis, Union Deposit,
7839	Ober's Red Seal Wheat Guano,	Wm. Atkinson, McVeytown,
7786	Ober's Soluble Ammoniated Superphosphate of Lime.	J. L. Ebersole, Elizabethtown,
7825	Ober's Soluble Ammoniated Superphosphate of Lime.	Herman Keebler, Montoursville,
7744	Ober's Soluble Ammoniated Superphosphate of Lime.	F. H. Shenberger, Red Lion,
7789	Ober's Special Plant Food,	B. F. Ensweiler, Florin,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7969	Coon Brand Guano, 1916,	Heisey & Curry, Hummelstown,
7207	Coon Brand Guano, 1916,	Fred Mick, Cresco,
8005	Patapsco Columbian Guano for Truck, Potatoes & Tobacco, 1916.	George Musick, Yostville,
7331	Patapsco Planters' Delight, 1917,	W. H. Snyder, Winfield.
7935	Patapsco Special Prolific Potato Phosphate,	E. W. Fenstermacher, Conyngham,
7214	Patapsco Special Prolific Potato Phosphate,	Oscar Vanbucker, Bold Mount,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
7902	Levering's Ammoniated Bone,	Jno. G. Simpson, Huntingdon,
8038	Levering's Ammoniated Bone,	Milton M. Wenger, Bareville,
7598	Piedmont Golden Eagle Fertilizer,	H. B. Low & Son, Orangeville,
8048	Piedmont Plow Brand Fertilizer,	H. E. Mullen, Christiana,
	THE POLLOCK FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7891	Pollock's Bulls Eye Guano,	J. H. Scott, Petersburg,
7265	Pollock's Corn, Wheat & Tomato Guano, 1916.	J. H. Kelly, Littlestown,
7567	Pollock's Crop Invigorator,	W. H. Frazer, Sand Patch,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
2.57	0.80	0.41	8.52	8.50	8.14	8.00	0.38	0.50	0.60	0.50	0.60	------	25 50	7978
4.33	1.29	1.03	9.02	8.50	8.33	8.00	0.69	0.50	0.78	0.75	0.78	------	32 50	7140
3.85	1.21	1.03	9.06	8.50	8.36	8.00	0.70	0.50	1.07	0.75	1.07	------	27 00	7742
3.13	1.23	1.03	9.10	8.50	8.41	8.00	0.69	0.50	0.89	0.75	0.89	------	30 50	7570
4.25	1.23	0.82	11.48	10.50	10.59	10.00	0.89	0.50	2.09	2.00	2.09	------	-------	7802
7.51	1.09	0.82	10.69	10.50	9.73	10.00	0.96	0.50	2.05	2.00	2.05	------	33 25	7334
7.37	0.98	0.82	11.19	10.50	10.41	10.00	0.78	0.50	2.75	2.00	2.75	------	34 00	7186
7.59	1.88	1.65	13.18	12.50	12.12	12.00	1.06	0.50	2.02	2.00	0.90	1.12	41 50	7336
8.03	1.92	1.65	13.56	12.50	12.36	12.00	1.20	0.50	2.23	2.00	1.80	0.43	-------	7182
2.92	1.46	1.65	8.76	8.50	7.99	8.00	0.77	0.50	2.05	2.00	2.05	------	38 00	7979
5.42	0.98	0.82	8.61	8.50	*7.77	8.00	0.84	0.50	1.05	1.00	1.05	------	28 50	7515
2.22	1.25	0.82	8.85	8.50	8.14	8.00	0.71	0.50	1.09	1.00	1.09	------	30 00	7980
4.32	0.93	0.82	8.62	8.50	8.02	8.00	0.60	0.50	1.24	1.00	------	1.24	30 00	7571
5.50	2.38	2.47	9.26	8.50	8.51	8.00	0.75	0.50	1.12	1.00	0.50	0.62	40 00	7178
8.36	1.10	0.82	9.57	9.00	8.72	8.00	0.85	1.00	1.10	1.00	0.50	0.60	40 00	7511
4.50	1.03	0.82	10.91	10.00	9.69	9.00	1.22	1.00	2.07	2.00	1.70	0.37	34 00	7838
7.20	1.09	0.82	10.31	10.00	9.15	9.00	1.16	1.00	2.00	2.00	2.00	------	-------	7373
4.95	1.03	0.82	10.74	10.00	9.62	9.00	1.12	1.00	2.00	2.00	2.00	------	-------	7804
4.15	0.78	0.82	10.19	9.00	9.41	8.00	0.78	1.00	1.11	1.00	0.55	0.56	-------	7976
6.74	*1.45	1.65	15.18	13.00	13.57	12.00	1.61	1.00	2.33	2.00	0.60	1.73	42 00	7839
4.82	1.67	1.65	10.47	9.00	8.74	8.00	1.73	1.00	2.15	2.00	1.10	1.05	-------	7786
5.42	1.49	1.65	10.78	9.00	8.98	8.00	1.80	1.00	2.07	2.00	2.07	------	38 00	7825
5.97	1.74	1.65	10.59	9.00	8.56	8.00	2.03	1.00	2.15	2.00	0.70	1.45	34 50	7744
7.70	1.76	1.65	11.76	10.00	9.60	9.00	2.16	1.00	5.05	5.00	2.10	2.95	-------	7789
4.72	1.23	0.82	10.56	10.00	9.22	9.00	1.34	1.00	1.05	1.00	------	1.05	34 00	7969
3.20	1.13	0.82	9.95	10.00	9.07	9.00	0.88	1.00	1.00	1.00	0.50	0.50	39 75	7207
3.15	2.88	2.47	10.68	10.00	10.07	9.00	0.61	1.00	1.14	1.00	0.60	0.54	48 00	8005
5.53	1.85	1.65	9.66	9.00	8.95	8.00	0.71	1.00	*1.32	2.00	0.50	0.82	38 00	7331
5.67	3.39	3.29	12.56	11.00	11.54	10.00	1.02	1.00	3.02	3.00	2.50	0.52	53 00	7935
7.06	3.53	3.29	11.60	11.00	10.92	10.00	0.68	1.00	3.02	3.00	1.40	1.62	60 00	7214
6.12	1.08	0.82	11.10	-------	9.25	9.00	1.85	-------	3.02	3.00	3.02	------	39 00	7902
4.00	1.23	0.82	10.04	-------	*8.78	9.00	1.26	-------	3.25	3.00	3.26	------	-------	8038
3.76	1.71	1.65	9.69	-------	9.09	9.00	0.60	-------	1.73	1.00	1.73	------	35 50	7598
2.10	1.90	1.65	9.15	9.00	7.87	8.00	1.28	1.00	2.40	2.00	2.40	------	36 00	8048
5.00	2.17	1.65	9.85	9.00	8.17	8.00	1.68	1.00	2.29	2.00	0.70	1.59	-------	7891
6.33	1.06	0.82	9.45	9.00	8.17	8.00	1.28	1.00	0.94	1.00	0.40	0.54	27 50	7265
9.18	1.06	0.82	8.57	9.00	7.83	8.00	0.74	1.00	4.23	4.00	0.80	3.43	38 00	7567

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*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7264	Pollock's Crop Invigorator,	J. H. Kelly, Littlestown,
7892	Pollock's Crop Invigorator,	J. H. Scott, Petersburg,
7905	Pollock's Special Wheat & Corn Fertilizer,	H. O. Andrews, Mapleton Depot,
7893	Pollock's Special Wheat & Corn Fertilizer,	J. H. Scott, Petersburg,
7890	Pollock's Special Wheat & Corn Fertilizer,	Harry Wilson, Frazer,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
7831	Rasin's Capital Grain & Clover Compound,	Walter Book, Port Royal,
7326	Rasin's Empire Guano,	S. B. Miller, Mifflinburg,
7350	Rasin's Empire Guano,	H. A. Snyder, Strawberry Ridge,
7325	Rasin's National Crop Compound,	S. B. Miller, Mifflinburg,
7304	Rasin's National Crop Compound,	Oxford Grain & Hay Co., Oxford,
7305	Rasin's Royal Fish Bone & Potash,	Oxford Grain & Hay Co., Oxford,
7229	Rasin's Wheat Corn & Oats Mixture,	Bradford & Son, Center Hall,
7261	Rasin's Wheat Corn & Oats Mixture,	J. D. Markle, Hanover,
7516	William Penn Crop Grower,	Albright & Schwoyer, Kempton,
7228	William Penn Crop Grower,	Bradford & Son, Center Hall,
7593	William Penn Crop Grower,	H. B. Low & Son, Orangeville,
	READING BONE FERTILIZER CO., READING, PA.	
7803	Blood, Meat & Potash Mixture,	C. R. Bucher, Myerstown,
7917	Blood, Meat & Potash Mixture,	John Hamm, Weatherly,
7805	Farmers' Tankage & Potash for Corn, Grain & Grass.	Samuel Kline, Lebanon,
	READING CHEMICAL COMPANY, READING, PA.	
7233	Complete Fertilizer,	C. M. Henderson, Warriors Mark,
7535	Complete Fertilizer,	Harry Murry, Myerstown,
7914	Farmers' Choice,	Samuel Cessna, Bedford,
7557	Farmers' Choice,	Charles E. Frazer, Mill Hall,
7874	Farmers' Choice,	Harvey B. Tyson, Schwenksville,
	ROBERT A. REICHARD, ALLENTOWN, PA.	
7212	Farmers' Choice,	C. E. Learn, Cresco,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
7147	Royster's Bangup Guano,	J. M. Hartman, Cashtown,
7922	Royster's Bangup Guano,	Milton Roeder, Summit,
7151	Royster's Brilliant Grain Guano,	Harvey Spencer, Cochranville,
7732	Royster's Brilliant Grain Guano,	J. B. Spera, Dillsburg,
7493	Royster's Cuckoo Crop Guano,	F. C. Deveny, Forest City,
7157	Royster's Fish, Flesh and Fowl Guano,	Harvey G. Spencer, Cochranville,
8029	Royster's Half & Half Wheat Guano,	C. C. Davis, Greensboro,
7818	Royster's Half & Half Wheat Guano,	B. J. Hartline, Montgomery,
7741	Royster's Half & Half Wheat Guano,	Milton Weiman, Dover,
7531	Royster's Rational Guano,	David Reigal, Ono,
8065	Royster's Rational Guano,	Tionesta Milling Co., Tionesta,
7318	Royster's Seeding Down Special Guano,	Latshaw Brothers, Anselma,
7801	Royster's Seeding Down Special Guano,	S. A. Phillippy, Myerstown,
7604	Royster's Seeding Down Special Guano,	Whitenight & Kschinka, Bloomsburg,
7534	Royster's Sterling Wheat Guano,	David Reigel, Ono,
7150	Royster's Wheat, Oats & Barley Guano,	J. M. Hartman, Cashtown,
7319	Royster's Wheat, Oats & Barley Guano,	Latshaw Brothers, Anselma,
7544	Royster's Wheat, Oats & Barley Guano,	Albert C. Myers, Lock Haven,
	SCHAAL-SHELDON FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BUFFALO, N. Y.	
7614	Farmers' Favorite, 1916,	J. E. Jackson, Everett,
7809	Schaal-Sheldon Guano,	Zinn Brothers, York,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
9.13	0.93	0.82	8.90	9.00	*7.76	8.00	1.14	1.00	4.50	4.00	4.50	------	36 00	7264
5.50	1.29	0.82	9.89	9.00	8.59	8.00	1.30	1.00	*3.55	4.00	3.55	------	-------	7892
3.37	1.02	0.82	9.13	9.00	*7.79	8.00	1.34	1.00	2.00	2.00	------	2.00	33 00	7965
5.35	1.30	0.82	9.94	9.00	8.65	8.00	1.29	1.00	2.02	2.00	1.80	0.22	-------	7893
5.50	1.08	0.82	9.72	9.00	8.34	8.00	1.38	1.00	*1.59	2.00	------	1.59	32 00	7890
6.50	1.66	1.65	14.86	13.00	13.09	12.00	1.77	1.00	*1.59	2.00	0.50	1.09	-------	7831
10.30	1.78	1.65	10.05	9.00	8.57	8.00	1.48	1.00	2.00	2.00	0.80	1.20	35 00	7326
10.17	1.73	1.65	10.14	9.00	8.90	8.00	1.24	1.00	2.10	2.00	1.10	1.00	38 40	7350
9.41	1.16	0.82	10.31	9.00	8.32	8.00	1.99	1.00	4.44	4.00	1.50	2.94	35 65	7325
9.34	1.22	0.82	10.04	9.00	*7.58	8.00	2.46	1.00	4.60	4.00	1.70	2.90	37 00	7304
8.87	1.85	1.65	10.51	9.00	8.01	8.00	2.50	1.00	3.16	3.00	0.90	2.26	39 00	7305
8.35	0.63	0.41	9.52	9.00	8.04	8.00	1.48	1.00	2.27	2.00	1.20	1.07	30 17	7229
6.70	0.70	0.41	8.61	9.00	*7.72	8.00	0.89	1.00	2.40	2.00	0.60	1.80	30 00	7261
7.66	1.08	0.82	10.49	9.00	8.84	8.00	1.65	1.00	1.14	1.00	------	1.14	28 50	7516
6.65	1.18	0.82	9.99	9.00	8.22	8.00	1.77	1.00	0.89	1.00	0.70	0.19	29 45	7228
8.48	1.08	0.82	9.78	9.00	8.54	8.00	1.24	1.00	0.95	1.00	0.60	0.35	29 50	7593
5.75	2.03	1.64	9.64	9.00	8.08	8.00	1.56	1.00	4.38	4.00	4.38	------	-------	7803
4.92	1.89	1.64	9.59	9.00	8.21	8.00	1.38	1.00	4.22	4.00	4.22	------	42 75	7917
5.67	1.21	0.82	11.48	11.00	9.90	10.00	1.58	1.00	1.00	1.00	1.00	------	31 00	7805
6.03	0.91	0.82	10.43	9.00	9.42	8.00	1.61	1.00	*0.77	1.00	0.77	------	31 00	7233
5.24	0.97	0.82	9.76	9.00	8.93	8.00	0.83	1.00	1.09	1.00	1.09	------	34 00	7535
4.15	1.07	0.82	9.96	10.00	8.86	9.00	1.10	1.00	3.02	3.00	2.30	0.72	26 00	7914
7.07	0.97	0.82	10.18	10.00	9.20	9.00	0.98	1.00	*2.64	3.00	2.64	------	35 00	7557
4.30	1.23	0.82	11.54	10.00	10.40	9.00	1.14	1.00	*2.56	3.00	2.56	------	40 00	7874
1.37	1.18	0.82	7.93	8.00	6.90	7.00	1.03	1.00	0.96	1.00	------	0.96	40 00	7212
7.39	1.88	1.65	10.42	8.50	8.32	8.00	2.10	0.50	4.88	5.00	0.50	4.38	45 00	7147
3.57	1.93	1.65	11.80	8.50	8.99	8.00	2.81	0.50	*4.50	5.00	0.60	3.90	46 00	7922
8.35	1.83	1.65	12.73	10.50	11.30	10.00	1.43	0.50	4.01	4.00	0.60	3.41	42 00	7151
3.42	1.67	1.65	12.25	10.50	10.30	10.00	1.95	0.50	4.50	4.00	0.60	3.90	44 50	7732
4.01	1.27	0.82	9.93	8.50	8.30	8.00	1.63	0.50	1.08	1.00	0.50	0.58	38 00	7493
7.85	1.68	1.65	10.26	8.50	8.72	8.00	1.54	0.50	*2.77	3.00	0.60	2.17	37 00	7157
1.20	0.85	0.41	9.53	8.50	8.51	8.00	1.02	0.50	0.60	0.50	0.20	0.40	30 00	8029
1.60	0.98	0.41	9.18	8.50	8.25	8.00	0.93	0.50	0.60	0.50	------	0.60	25 00	7818
1.00	0.79	0.41	8.00	8.50	*7.30	8.00	0.70	0.50	0.68	0.50	------	0.68	-------	7741
5.69	1.03	0.82	10.10	8.50	8.10	2.00	2.00	0.50	4.53	4.00	0.50	4.03	-------	7531
3.92	1.28	0.82	10.61	8.50	9.55	8.00	1.06	0.50	4.32	4.00	0.70	3.62	38 00	8065
7.36	1.04	0.82	11.93	9.50	10.23	9.00	1.70	0.50	2.91	3.00	------	2.91	36 00	7318
5.10	1.15	0.82	10.92	9.50	9.57	9.00	1.35	0.50	*2.65	3.00	2.65	------	34 25	7801
7.32	0.98	0.82	12.03	9.50	10.73	9.00	1.30	0.50	3.04	3.00	------	3.04	37 50	7604
8.56	1.73	1.65	15.08	12.50	13.86	12.00	1.22	0.50	2.04	2.00	------	2.04	39 25	7534
6.18	1.23	0.82	9.31	8.50	8.20	8.00	1.11	0.50	2.20	2.00	0.50	1.70	32 00	7150
5.71	0.88	0.82	9.95	8.50	8.06	8.00	1.89	0.50	*1.75	2.00	------	1.75	33 00	7319
5.01	1.00	0.82	10.15	8.50	8.81	8.00	1.34	0.50	2.07	2.00	------	2.07	39 50	7544
3.89	1.05	0.82	9.25	9.00	8.48	8.00	0.77	1.00	1.05	1.00	------	1.05	33 00	7614
6.30	1.20	0.82	9.62	9.00	8.42	8.00	1.20	1.00	5.04	4.00	5.04	------	36 10	7809

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*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
7168	Scott's Pennsylvania Potato Grower,	Edw. W. Rupert, Oxford,
7164	Scott's Sure Growth Superphosphate,	Edw. W. Rupert, Oxford,
7518	Scott's Wheat & Grass Grower,	E. D. Greenawalt, Albany,
	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.	
7635	Swift Sure Special,	Garfield Milhous, Mendenhall,
7441	Swift Sure Special,	A. L. Palsgrove, Friedensburg,
	SOIL-BAC LABORATORY CO., WARREN, PA.	
7813	Soil-Bac Inoculated Fertilizer,	J. F. & H. O. Newhouse, Glen Rock,
	SOUTHERN FERTILIZING CO., BALTIMORE, MD.	
7248	Farmers' Choice Brand, 1916,	C. C. Catherman, Hartleton,
7146	General Crop Grower, 1916,	W. O. Andrew, McKnightstown,
	SWIFT & COMPANY, BALTIMORE, MD.	
7894	Swift's Champion Wheat & Corn Grower,	E. M. Davis & Son, Petersburg,
7310	Swift's Champion Wheat & Corn Grower,	Passmore & Co., Nottingham,
7946	Swift's Champion Wheat & Corn Grower,	T. L. Wall, Clearfield,
7945	Swift's No. 2 High Grade Grain Grower,	T. L. Wall, Clearfield,
8031	Swift's No. 3 High Grade Grain Grower,	Wayne Hartman, Brownstown,
8076	Swift's No. 3 High Grade Grain Grower,	Albert Reagle, Guys Mills,
7341	Swift's No. 3 High Grade Grain Grower,	E. A. Ungard, Allenwood,
7608	Swift's Red Steer,	Francis Baker, Everett,
7712	Swift's Red Steer,	Wm. F. Guth, East Macungie,
7453	Swift's Reliable Grain Fertilizer,	E. W. Dreisbach, Weissport,
7901	Swift's Reliable Grain Fertilizer,	Ross E. Goodman, Huntingdon,
7850	Swift's Reliable Grain Fertilizer,	W. J. Kennedy & Son, Mars,
7288	Swift's Reliable Grain Fertilizer,	Jas. McCollugh & Son, Kittanning,
7384	Swift's Reliable Grain Fertilizer,	F. M. Rentschler, Shartlesville,
7476	Swift's Reliable Grain Fertilizer,	R. G. Young & Sons, New Galilee,
7237	Swift's Special Wheat Fertilizer,	Spring Grove Farmers' Cooperative Association, Spring Grove.
7603	Swift's Standard Potato Fertilizer,	M. Getty, Orangeville,
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
7924	Fall Crop Grower,	Wm. Eifert, Cressona,
7688	Fall Crop Grower,	Clinton D. Kremmer, Wind Gap,
7687	Wheat & Cereal Manure,	Clinton D. Kremmer, Wind Gap,
7644	Wheat & Cereal Manure,	A. K Kulp, Pottstown,
	THE J. E. TYGERT CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
7302	Golden Harvest Phosphate, 1916,	Edward F. Bracken, Paoli,
7377	Standard Fertilizer,	Elias E. Meyer, Fredericksburg,
7746	Victor Crop Grower,	J. C. Saylor Estate, Felton,
7375	Welcome Brand Fertilizer,	Elias E. Meyer, Fredericksburg,
7745	Welcome Brand Fertilizer,	J. S. Saylor Estate, Felton,
	I. P. THOMAS & SON CO., PHILADELPHIA, PA.	
7806	Champion Guano,	M. S. Horn, York,
7376	Grain Special Fertilizer,	Elias Gerhart & Son, Jonestown,
7487	Grain Special Fertilizer,	Greenville Coal & Ice Co., Greenville,
7855	Grain Special Fertilizer,	W. H. Heckert's Sons, Bakerstown,
7857	Superior Superphosphate,	D. A. Hankey, Parnassus,
7232	Superior Superphosphate,	Ira Harpster, Warriors Mark,
7854	Superior Superphosphate,	W. H. Heckert's Sons, Bakerstown,
7234	I. P. Thomas 2-10-4 Fertilizer,	Ira Harpster, Warriors Mark,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.		Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.						
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
6.69	1.09	0.82	9.02	10.00	8.32	8.00	0.70	2.00	1.97	2.00	1.97	------	33 5	168
5.71	1.95	1.65	9.03	10.00	8.09	8.00	0.94	2.00	1.96	2.00	0.50	1.46	38 0	164
5.17	0.68	0.41	11.14	12.00	10.39	10.00	0.75	2.00	1.10	1.00	1.10	------	32 0	518
4.72	1.78	0.82	15.26	14.00	12.26	12.00	3.00	2.00	1.05	1.00	0.50	0.55	36 00	7635
8.39	1.48	0.82	15.43	14.00	13.24	12.00	2.19	2.00	1.01	1.00	------	1.01	38 00	7441
7.17	0.72	0.82	5.70	4.00	4.21	4.00	1.49	-------	1.12	1.00	------	1.12	43 00	7813
7.00	1.11	0.82	10.74	10.00	9.52	9.00	1.22	1.00	*0.76	1.00	0.45	0.31	-------	7248
5.93	0.73	0.41	9.31	9.00	8.38	8.00	0.93	1.00	*0.72	1.00	0.72	------	28 00	7146
5.62	1.67	1.65	13.46	12.00	12.40	12.00	1.06	-------	2.05	2.00	1.40	0.65	40 00	7894
7.57	1.72	1.65	12.68	12.00	*11.69	12.00	0.99	-------	*1.76	2.00	1.76	------	42 00	7310
4.42	1.85	1.65	12.58	12.00	*11.16	12.00	1.42	-------	2.66	2.00	2.66	------	40 25	7946
5.45	1.93	1.65	10.91	10.00	*9.16	10.00	1.75	-------	3.86	4.00	2.45	1.41	43 75	7945
4.85	1.53	1.23	13.37	12.00	12.57	12.00	0.80	-------	1.78	1.50	1.78	------	39 50	8031
8.47	1.78	1.23	14.52	12.00	*11.37	12.00	3.15	-------	1.61	1.50	1.61	------	37 50	8076
6.34	1.33	1.23	13.39	12.00	12.15	12.00	1.24	-------	*1.26	1.50	1.26	------	36 50	7341
5.37	1.90	1.65	10.15	8.00	8.45	8.00	1.70	-------	1.94	2.00	1.30	0.64	38 00	7608
3.55	1.77	1.65	9.94	8.00	8.72	8.00	1.22	-------	2.54	2.00	2.54	------	38 75	7712
5.12	0.85	0.82	8.87	8.00	8.02	8.00	0.85	-------	1.59	1.00	1.59	------	30 00	7453
2.30	1.23	0.82	8.16	8.00	*7.46	8.00	0.70	-------	1.06	1.00	1.06	------	30 00	7901
3.15	1.18	0.82	9.54	8.50	8.51	8.00	1.03	0.50	1.05	1.00	------	1.05	35 00	7850
5.85	0.97	0.82	10.36	8.50	8.43	8.00	1.93	0.50	0.98	1.00	0.20	0.78	32 00	7288
4.39	0.97	0.82	8.97	8.00	8.32	8.00	0.65	-------	1.01	1.00	1.01	------	-------	7384
5.53	1.20	0.82	11.23	8.50	9.19	8.00	2.04	0.50	0.84	1.00	0.84	------	32 00	7476
4.50	1.08	0.82	8.84	8.00	7.91	8.00	0.93	-------	*3.74	4.00	3.30	0.44	-------	7267
5.02	1.92	1.65	11.05	8.00	9.48	8.00	1.57	-------	*2.77	3.00	1.90	0.87	39 09	7603
5.95	1.14	0.82	10.42	9.00	8.63	8.00	1.79	1.00	2.54	2.00	2.25	0.29	-------	7924
6.30	0.98	0.82	10.33	9.00	9.13	8.00	1.20	1.00	2.35	2.00	2.35	------	30 50	7688
5.55	1.13	0.82	10.20	9.00	8.77	8.00	1.43	1.00	*3.00	4.00	3.00	------	36 50	7687
7.07	1.75	0.82	10.91	9.00	7.89	8.00	3.02	1.00	4.13	4.00	4.13	------	39 00	7644
7.69	0.98	0.82	9.12	9.00	8.13	8.00	0.99	1.00	1.24	1.00	------	1.24	30 00	7302
6.44	2.20	1.65	9.57	9.00	8.43	8.00	1.14	1.00	2.06	2.00	0.90	1.16	-------	7377
6.95	0.95	0.82	9.46	9.00	8.47	8.00	0.99	1.00	4.36	4.00	4.36	------	36 00	7746
6.86	2.71	0.82	9.12	9.00	*7.72	8.00	1.40	1.00	2.12	2.00	2.12	------	-------	7375
4.05	1.10	0.82	9.50	9.00	8.40	8.00	1.10	1.00	2.35	2.00	0.80	1.55	30 50	7745
2.47	1.79	1.65	12.88	8.50	10.84	8.00	2.04	0.50	*0.66	1.00	0.66	------	33 00	7806
8.92	1.25	0.82	9.06	8.50	8.36	8.00	0.70	0.50	2.22	2.00	1.10	1.12	-------	7376
9.38	1.29	0.82	9.01	8.50	8.49	8.00	0.52	0.50	2.03	2.00	1.70	0.33	35 00	7487
6.72	1.30	0.02	9.30	8.50	8.13	8.00	1.17	0.50	1.92	2.00	0.80	1.12	37 00	7855
3.87	0.95	0.82	8.76	7.50	7.80	7.00	0.96	0.50	1.18	1.00	------	1.18	32 00	7857
7.05	1.23	0.82	9.10	7.50	7.06	7.00	2.04	0.50	1.07	1.00	0.70	0.37	27 00	7232
5.15	0.95	0.82	9.29	7.50	8.08	7.00	1.21	0.50	1.20	1.00	------	1.20	34 00	7854
12.90	1.51	1.65	10.84	10.50	10.21	10.00	0.63	0.50	*3.36	4.00	3.00	0.36	42 00	7234

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*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From--
7584	I. P. Thomas 2-12-2 Fertilizer,	Geo. B. Kase, Danville,
7427	I. P. Thomas 2-12-2 Fertilizer,	J. H. Maurer, Pitman,
7985	Tip Top Fertilizer,	D. L. Hertzler, Mechanicsburg,
7929	Victor Potash Fertilizer,	James Herman, Nescopeck,
	UNION CHEMICAL WORKS, INC., NORTH WALES, PA.	
7880	Farmers' Favorite,	Charles Wegschneider, Line Lexington,
	VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.	
7573	V. C. Champion Manure,	E. B. Maurer, Boswell,
7679	V. C. Fish Bone & Potash, Revised,	J. Milton Schick, Stroudsburg,
7448	V. C. National Ammoniated Guano,	Victor Solt, Lehighton,
7446	V. C. One Nine Three,	David Green, Little Gap,
7578	V. C. Special Compound,	N. H. Blough, Davidsville,
7579	V. C. Standard Grain Grower,	N. H. Blough, Davidsville,
7449	V. C. Standard Grain Grower,	Victor Solt, Lehighton,
	THE ROBERT A. WOOLDRIDGE CO., BALTIMORE, MD.	
7411	Wooldridge's Ammoniated Phosphate,	John A. Croilley, Imler,
7669	Wooldridge's Ammoniated Phosphate,	Robert Wentz, Wellsville,
7235	Wooldridge's Champion Stag Phosphate, 1916.	D. C. Harpster, Port Matilda,
7994	Wooldridge's Farmers' Favorite Cereal Compound, 1916.	G. S. Briner, Carlisle,
7634	Wooldridge's Farmers' Favorite Cereal Compound, 1916.	Garfield Milhous, Mendenhall,
7558	Wooldridge's Fish Mixture No. 1,	Ross Sechler, Meyersdale,
	YORK CHEMICAL WORKS, YORK, PA.	
7846	Dempwolf's One-Eight-One,	Alfred Engelder, Marwood,
7471	Dempwolf's One-Eight-One,	Felix Heib, Pitman,
8033	Dempwolf's One-Eight-One,	H. M. Stouffer, Leola,
7266	Dempwolf's One-Eight-Two,	Senft & Shildt, Littlestown,
7731	Dempwolf's One-Eight-Two,	J. B. Spera, Dillsburg,
7479	Dempwolf's Standard Potash,	Harry Burton, Grove City,
7426	Dempwolf's Standard Potash,	Felix Herb, Pitman,
7833	Dempwolf's Standard Potash,	W. H. Kramer, McCalistersville,
7973	Dempwolf's Two-Eight-Two,	B. H. Engle, Hummelstown,
7366	Dempwolf's Two-Eight-Two,	Irwin Kreischer, Catawissa,
7661	Dempwolf's Two-Eight-Two,	Red Lion Farmers' Coperative Association, Red Lion.
7242	Dempwolf's Wheat Special,	J. C. Brooks, Center Hall,
7365	Dempwolf's Wheat Special,	Irwin Kreischer, Catawissa,
8035	Dempwolf's Wheat Special,	H. M. Stouffer, Leola,
		Average,

FERTILIZERS—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
12.38	1.65	1.65	12.74	12.50	12.34	12.00	0.40	0.50	2.46	2.00	2.46	------	40 50	7584
9.40	1.54	1.65	13.34	12.50	11.81	12.00	1.53	0.50	2.44	2.00	0.60	1.84	-------	7427
6.82	2.31	2.45	10.97	8.50	8.83	8.00	2.14	0.50	1.30	1.00	0.70	0.60	44 00	7985
8.82	0.73	0.82	13.71	12.50	13.06	12.00	0.65	0.50	1.59	1.00	0.50	1.09	-------	7929
5.00	1.84	1.64	6.68	6.00	*5.75	6.00	0.93	-------	*1.78	2.00	1.78	------	40 00	7880
6.82	0.85	0.41	10.36	9.00	9.47	8.00	0.89	1.00	1.47	1.00	0.75	0.72	30 00	7573
3.92	1.90	1.65	10.36	9.50	9.30	8.50	1.06	1.00	1.32	1.00	------	1.32	32 50	7679
7.83	1.04	0.82	9.69	9.00	8.94	8.00	0.75	1.00	4.43	4.00	0.90	3.53	36 00	7448
6.83	1.89	0.82	10.41	10.00	9.49	9.00	0.92	1.00	3.80	3.00	0.80	3.00	34 75	7446
3.89	1.23	0.82	10.01	9.00	8.03	8.00	1.98	1.00	0.94	1.00	0.94	------	33 00	7578
6.80	0.95	0.82	10.35	9.00	8.26	8.00	2.09	1.00	2.11	2.00	------	2.11	36 50	7579
8.05	0.92	0.82	8.36	9.00	*7.63	8.00	0.73	1.00	3.04	2.00	0.50	2.54	30 00	7449
6.38	1.61	0.82	9.38	9.00	8.22	8.00	1.16	1.00	1.02	1.00	0.80	0.22	29 50	7411
7.30	1.15	0.82	9.89	9.00	8.51	8.00	1.38	1.00	1.01	1.00	1.01	------	29 00	7669
7.53	1.19	0.82	10.33	10.00	9.02	9.00	1.31	1.00	0.84	1.00	0.20	0.64	30 00	7235
3.20	0.68	0.41	9.17	9.00	8.33	8.00	0.84	1.00	0.91	1.00	0.91	------	26 25	7994
2.63	0.49	0.41	10.65	9.00	10.19	8.00	0.46	1.00	*0.43	1.00	------	0.43	28 00	7634
4.00	1.08	0.82	8.78	8.00	7.63	7.00	1.15	1.00	1.09	1.00	------	1.09	27 00	7558
4.62	1.15	0.82	10.10	-------	9.55	8.00	0.55	-------	1.21	1.00	1.21	------	30 00	7846
7.68	0.98	0.82	9.86	-------	9.22	8.00	0.64	-------	1.07	1.00	1.07	------	-------	7471
5.52	0.86	0.82	8.32	-------	*7.75	8.00	0.57	-------	3.55	1.00	3.55	------	31 00	8033
9.58	1.18	0.82	8.85	-------	8.19	8.00	0.63	-------	*1.27	2.00	1.27	------	-------	7266
5.42	1.25	0.82	9.63	-------	8.93	8.00	0.70	-------	2.44	2.00	2.44	------	31 50	7731
8.14	1.05	0.82	9.58	-------	8.90	8.00	0.68	-------	5.43	4.00	5.43	------	35 50	7479
8.40	1.06	0.82	9.15	-------	8.51	8.00	0.64	-------	3.84	4.00	3.84	------	33 00	7426
7.20	1.03	0.82	10.12	-------	9.44	8.00	0.68	-------	4.48	4.00	4.48	------	35 90	7833
4.30	1.95	1.65	11.06	-------	10.18	8.00	0.88	-------	2.15	2.00	2.15	------	-------	7973
5.30	1.89	1.65	8.52	-------	8.05	8.00	0.47	-------	*1.62	2.00	1.62	------	35 00	7366
5.87	1.85	1.65	8.51	-------	8.03	8.00	0.48	-------	*1.78	2.00	1.78	------	33 50	7661
6.39	2.07	1.65	13.39	-------	12.65	12.00	0.74	-------	1.84	2.00	1.84	------	-------	7242
5.56	1.83	1.65	12.59	-------	12.02	12.00	0.57	-------	2.92	2.00	2.92	------	38 50	7365
8.55	2.03	1.65	12.40	-------	12.12	12.00	0.28	-------	2.09	2.00	2.09	------	42 00	8035
6.11	1.34	------	10.28	-------	8.96	-------	1.32	-------	2.11	------	------	------	34 91	-----

*Deficient.

TABLE NO. II.—NITROGEN AND

Including Dissolved Bones

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7159	Ammoniated Fertilizer A,	H. P. Passmore & Brother, Oxford,
7504	Ammoniated Fertilizer A,	St. Nicholas Orphanage, Elmhurst,
7160	Ammoniated Fertilizer AA,	H. P. Passmore & Brother, Oxford,
7507	Ammoniated Fertilizer AA,	St. Nicholas Orphanage, Elmhurst,
8088	Ammoniated Fertiliger AAA,	Keystone Grape Co., North East,
7508	Ammoniated Fertilizer AAA,	St. Nieholas Orphanage, Elmhurst,
7505	Ammoniated Fertilizer AAAA,	St. Nieholas Orphanage, Elmhurst,
7695	Ammoniated Superphosphate,	Milton Edelman, Nazareth,
7860	Ammoniated Superphosphate,	D. A. Hankey, Parnassus,
7959	Ammoniated Superphosphate,	Eli Reimer, Flicksville,
7983	Josiah Cope & Co.'s Ammoniated Fertilizer A.	Dietz & Sons, Mechanieshurg,
7873	Josiah Cope & Co.'s Ammoniated Fertilizer AA.	A. H. Keeley & Son, Schweneksville,
7419	Josiah Cope & Co.'s Fish Phosphate,	J. S. Hershberger, Everett,
7543	Croeker's Farmers Choice,	W. B. Leete, Ulysses,
7484	Crocker's Special Grain Grower,	J. G. Nelson, New Castle,
7461	Crocker's Special Grain Grower,	Harry Ryland, Cressona,
7872	Diamond Wheat and Grass Special,	A. H. Keeley & Son, Sehwencksville,
7312	High Grade Dissolved Bone,	Pennell Thompson, New London,
7997	Ludlam's Cecrops Fertilizer Bone Manure,	J. Fleished, Shermandale,
7250	Nassau Buckwheat Special,	Brillinger & Swartz, Emigsville,
7996	Nassau Common Sense Fertilizer, 1916,	W. S. Stuart, Carlisle,
7727	Northwestern Ammoniated Fertilizer A,	W. H. Hoffman, Tripoli,
7639	Peerless Special,	Henry S. Hittel Est., Port Kennedy,
7738	Sehaal-Sheldon Ammoniated Superphosphate X.	Dover Farmers Co-operativve Association, Dover.
7583	Soluble Grain Mixture,	Jefferson Altfather, Berlin,
7387	Susquehanna Arrow Brand,	D. A. Dries, Kutztown,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
7273	American Fish and Bone Special,	H. W. Burg, East Prospect,
7580	American Fish and Bone Special,	John G. Emert, Somerset,
7646	American Fish and Bone Special,	A. K. Kulp, Pottstown,
7582	American Special Fish Guano,	John G. Emert, Somerset,
7645	American Special Fish Guano,	A. K. Kulp, Pottstown,
	ARMOUR'S FERTILIZER WORKS, BALTIMORE, MD.	
7882	Armour's Cereal Special No. 4,	T. E. McIlhatten, Hatboro,
8025	Armour's Cereal Special No. 4,	G. L. Moore, Brownsville,
7896	Armour's Cereal Special No. 4,	Petershurg Grain, Feed & Supply Co., Petershurg.
7709	Armour's 1-10-0 Fertilizer,	John H. Singmaster, Maeungie,
7847	Armour's 1.50-9-0 Fertilizer,	Smith & Logan, Cahot,
8087	Armour's 1.50-9-0 Fertilizer,	Vinyard Suply Co., North East,
7631	Armour's 2-10-0 Fertilizer,	W. E. Ervin & Son, Somerton,
7940	Armour's 2-10-0 Fertilizer,	Peffer & Son, Punxsutawney,
7895	Armour's 2-10-0 Fertilizer,	Petersburg Grain, Feed & Supply Co., Petersburg.
	BAUGH & SONS COMPANY, BALTIMORE, MD.	
7671	Baugh's Ammoniated Superphosphate,	Cook Grain & Supply Co., Dillsburg,
7926	Baugh's Ammoniated Superphosphate,	Thos. Garrison, Berwiek,
7652	Baugh's Dissolved Bone,	J. P. Shuehart, New Freedom,
7735	Baugh's Fish Bone Guano,	J. S. Beshore, Cly,
7756	Baugh's Fish Bone Guano,	Joshua Bingaman, Middleburg,
7656	Baugh's Half and Half Mixture,	Brillinger & Swartz, Emigsville,

PHOSPHORIC ACID FERTILIZERS.

and Other Like Products.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
7.27	1.05	0.82	12.36	11.00	11.56	10.00	0.80	1.00	28 00	7159
5.12	1.25	0.82	12.56	11.00	11.36	10.00	1.20	1.00	32 00	7504
5.44	1.95	1.65	12.05	11.00	11.08	10.00	0.97	1.00	33 00	7160
4.25	1.83	1.65	12.19	11.00	10.77	10.00	1.42	1.60	35 00	7507
1.25	3.04	2.47	12.05	11.00	10.63	10.00	1.42	1.00	37 25	8088
4.13	2.49	2.47	12.02	11.00	10.43	10.00	1.59	1.00	37 00	7508
5.32	*3.05	3.29	12.50	11.00	10.83	10.00	1.67	1.00	38 00	7505
3.20	0.90	0.82	9.44	9.00	8.32	8.00	1.12	1.00	24 50	7695
2.00	1.15	0.82	10.91	9.00	9.34	8.00	1.57	1.00	34 00	7860
4.17	1.23	0.82	10.14	9.00	8.00	8.00	2.14	1.00	26 50	7959
5.15	1.10	0.82	11.79	11.00	10.64	10.00	1.15	1.00	26 75	7983
3.72	*1.45	1.65	10.97	11.00	9.89	10.00	1.08	1.00	39 00	7873
5.39	0.61	0.41	9.58	9.00	8.79	8.00	0.79	1.00	28 00	7419
4.03	1.19	0.82	12.56	11.00	10.67	10.00	1.89	1.00	28 50	7543
4.80	1.90	1.65	12.96	11.00	11.05	10.00	1.91	1.00	34 00	7484
3.65	1.84	1.65	12.44	11.00	9.81	10.00	2.63	1.00	--------	7461
4.00	1.32	1.23	11.33	11.00	10.16	10.00	1.17	1.00	37 00	7872
5.12	2.64	2.00	17.23	13.00	14.55	12.00	2.68	1.00	40 00	7312
4.55	1.00	0.82	9.22	9.00	8.01	8.00	1.21	1.00	--------	7997
7.40	1.10	0.82	9.61	9.00	8.21	8.00	1.40	1.00	26 00	7250
5.00	2.10	1.65	12.54	11.00	10.97	10.00	1.57	1.00	31 00	7996
3.30	2.14	0.82	12.34	13.00	*10.99	12.00	1.35	1.00	29 50	7727
1.12	1.65	1.65	10.20	9.00	9.04	8.00	1.16	1.00	26 75	7639
3.12	1.08	0.82	9.73	9.00	8.24	8.00	1.49	1.00	24 96	7738
5.13	1.21	0.82	11.02	9.00	9.13	8.00	1.89	1.00	29 00	7583
7.11	1.23	0.82	10.01	9.00	8.28	8.00	1.73	1.00	25 00	7387
7.76	1.86	1.65	12.82	12.00	11.02	11.00	1.80	1.00	32 00	7273
7.31	2.03	1.65	13.71	12.00	11.64	11.00	2.07	1.00	33 35	7580
5.66	1.66	1.65	12.27	12.00	11.06	11.00	1.21	1.00	34 00	7646
7.14	1.26	0.82	11.49	11.00	9.88	10.00	1.61	1.00	27 35	7582
6.21	1.25	0.82	11.80	11.00	10.47	10.00	1.33	1.00	29 00	7645
5.20	2.38	1.65	12.76	12.50	12.42	12.00	0.34	0.50	35 00	7882
3.62	2.06	1.65	12.48	12.50	12.16	12.00	0.32	0.50	38 50	8025
4.07	2.23	1.65	13.07	12.50	12.94	12.00	0.13	0.50	35 00	7896
3.62	1.48	0.82	11.72	10.50	10.88	10.00	0.84	0.50	30.00	7709
1.97	1.43	1.23	10.59	9.50	9.23	9.00	1.36	0.50	30 75	7847
1.67	1.68	1.23	10.27	9.50	*8.70	9.00	1.57	0.50	30 25	8087
3.78	1.87	1.65	11.67	10.50	10.52	10.00	1.15	0.50	38 00	7631
1.87	1.96	1.65	12.31	10.50	10.41	10.00	1.90	0.50	38 00	7940
3.15	2.20	1.65	12.05	10.50	10.85	10.00	1.20	0.50	33 00	7895
4.43	1.41	1.02	12.14	10.00	10.74	10.00	1.40	--------	28 35	7671
3.12	1.41	1.02	12.09	10.00	10.58	10.00	1.51	--------	28 10	7926
3.12	2.33	2.06	12.73	12.00	12.09	12.00	0.64	--------	39 00	7652
4.37	1.75	1.65	11.86	10.00	10.74	10.00	1.12	--------	32 00	7725
3.93	1.85	1.05	11.61	10.00	*9.36	10.00	2.25	--------	34 25	7756
4.00	1.48	1.23	20.72	19.00	12.39	12.00	8.33	7.00	41 00	7656

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
7306	Baugh's Half and Half Mixture,	Morris & Clarence Bunting,
7722	Baugh's Peninsula Grain Producer,	H. F. Hister, Wanamaker,
7999	Baugh's Peninsula Grain Producer,	S. E. Shenk & Sons, Newville,
7565	Baugh's Wheat Fertilizer for Wheat and grass.	Samuel Baer, Sand Patch,
7298	Baugh's Wheat Fertilizer for Wheat and grass.	Edw. W. Brinton & Son, West Chester,
7189	Baugh's Wheat Fertilizer for Wheat and grass.	James Reber, Myerstown,
	THE BERG COMPANY, PHILADELPHIA, PA.	
7877	Berg's Special Wheat Grower,	H. B. Kratz, Schwencksville,
	BERGER BROTHERS, EASTON, PA.	
7700	Lehigh Superphosphate, 1916,	Berger Brothers, Easton,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7542	Bowker's Buckwheat Special,	Emporium Supply Co., Emporium,
7211	Bowker's Buckwheat Special,	C. E. Learn, Cresco,
7497	Bowker's Superphosphate with Ammonia 1%,	J. Dymond, Waymarth,
7541	Bowker's Superphosphate with Ammonia 3%,	Emporium Supply Co., Emporium,
	THE CENTRAL CHEMICAL COMPANY (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
7564	C. C. C. Bone Compound,	S. L. Saylor, Meyersdale,
7142	C. C. C. Special Bone Mixture,	Biglerville Warehouse Co., Biglerville,
7936	C. C. C. Special Bone Mixture,	Samuel Savidge, Valley View,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHMEICAL CO., NEW YORK, N. Y.	
7219	E. Frank Coe's Original Ammoniated Dissolved Phosphate, 1916.	G. Everly, Taylor,
	COLUMBIA GUANO COMPANY, BALTIMORE, MD.	
7393	Columbia French Ammoniated Phosphate,	Arthur A. Geiger, Joanna,
7380	Columbia Reflex Ammoniated Phosphate,	John P. Fisher, Douglassville,
7392	Columbia Special Wheat Ammoniated Phosphate.	Arthur A. Geiger, Joanna,
	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
8010	Consumers All Crop Compound (without potash).	J. B. Chapman, Clark Summit,
7719	Consumers Pure Sure Ammoniated Bone Phosphate.	P. J. Remaley, Slatington,
7225	Consumers Pure Sure Corn and Vegetable (without potash).	E. E. White, Edella,
7222	Consumers Pure Sure Potato and Vegetable (without potash).	E. E. White, Edella,
7489	Consumers Pure Sure Truckers Mixture (without potash).	E. E. White, Edella,
	EUREKA CHEMICAL COMPANY, BALTIMORE, MD.	
7270	Eureka Dissolved Animal Base,	Josiah Haugh, Windsor,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Total.		Available.		Insoluble.			
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
5.35	1.54	1.23	20.92	19.00	*11.29	12.00	9.63	7.00	42 00	7306
4.27	1.23	0.82	10.97	9.00	10.32	9.00	0.65	--------	26 50	7722
3.55	1.22	0.82	10.05	9.00	8.84	9.00	1.21	--------	26 50	7999
5.20	1.71	1.65	11.31	10.00	*9.49	10.00	1.82	--------	33 00	7565
8.70	2.00	1.65	11.47	10.00	10.84	10.00	0.63	--------	34 00	7298
8.08	1.96	1.65	11.52	10.00	10.97	10.00	0.55	--------	--------	7189
4.95	2.37	1.65	12.35	11.20	*7.62	8.00	4.73	3.20	32 00	7877
2.52	2.31	1.65	11.95	11.00	10.52	10.00	1.43	1.00	35 00	7700
0.95	0.72	0.41	9.41	9.00	*7.74	8.00	1.67	1.00	30 00	7542
2.07	0.88	0.41	9.66	9.00	8.95	8.00	0.71	1.00	30 00	7211
5.08	1.13	0.82	12.50	11.00	9.91	10.00	2.59	1.00	33 00	7497
2.16	2.60	2.47	12.18	11.00	10.65	10.00	1.53	1.00	47 00	7541
5.91	1.45	1.25	15.73	----------	*13.18	14.00	2.55	--------	32 50	7564
3.14	2.15	1.65	12.28	----------	10.05	10.00	2.23	--------	21 50	7142
4.65	*1.40	1.65	10.88	----------	9.81	10.00	1.07	--------	--------	7936
3.36	1.89	1.65	11.29	11.00	10.09	10.00	1.20	1.00	26 00	7219
6.26	1.12	0.82	13.62	8.50	12.50	8.00	1.12	0.50	24 00	7393
4.10	1.29	0.82	11.20	10.50	*9.24	10.00	1.96	0.50	28 75	7380
5.92	1.10	0.82	13.44	12.50	12.41	12.00	1.03	0.50	28 00	7392
1.85	1.15	0.82	9.95	10.00	9.59	9.00	0.36	1.00	39 00	8010
4.87	2.26	1.65	9.99	11.00	*9.66	10.00	0.33	1.00	32 00	7719
3.60	3.48	2.47	11.68	11.00	11.54	10.00	0.14	1.00	44 00	7225
4.06	3.34	3.29	11.00	11.00	10.76	10.00	0.24	1.00	--------	7222
1.98	*3.86	4.94	9.20	9.00	8.98	8.00	0.22	1.00	60 00	7489
5.19	1.11	1.23	9.78	9.50	8.87	9.00	0.91	0.50	29 50	7270

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE EUREKA FERTILIZER COMPANY, LANCASTER, PA.	
7793	No. 2 Farmers Favorite,	P. C. Kline, Brumerville,
	FARMERS FERTILIZER AND FEED CO., WESTMINSTER, MD.	
7137	Carroll Phosphate,	J. Diller, Hanover,
7135	XXX Phosphate,	J. Diller, Hanover,
	FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.	
7666	Farmers' Crop Grower,	A. T. Heltzel, York,
7765	Farmers' Crop Grower,	Steninger Brothers, Middleburg,
7430	Farmers' Golden Sheaf,	Rufus Morgan, Pine Grove,
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
7667	Cereal Mixture,	Geo. A. Wolf & Son, Mt. Wolf,
7155	Farmers Mixture,	Wm. Chamberlain, Christiana,
7152	Fish and Bone Mixture,	S. K. Chambers & Brother, Elkview,
7280	Fish and Bone Mixture,	Dayton Milling Co., Dayton,
7153	Peerless Mixture,	S. K. Chambers & Brother, Elkview,
7282	Peerless Mixture,	Dayton Milling Co., Dayton,
7748	Queen Guano,	D. W. Gehley, York,
7781	Queen Guano,	Howard Hoffman, Denver,
7761	Queen Guano,	Edward Lepley, Beaver Springs,
	S. M. HESS & BROTHER, INC., PHILADELPHIA, PA.	
7685	Ammoniated Grain Grower,	R. V. Willauer, Nazareth,
7879	Ammoniated Special Fertilizer,	J. M. Hiltebeitel, Green Lane,
7686	Ammoniated Special Fertilizer,	Richard V. Willauer, Nazareth,
7866	Standard Super Phosphate,	W. A. Lutz, Lyndell,
	M. P. HUBBARD CO., INC., BALTIMORE, MD.	
7775	Hubbard's Active Phosphate,	F. A. Bingaman, Port Trevorton,
7815	Hubbard's Active Phosphate,	Bert Hoff, Seven Valley,
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
7217	Hubbard's Ammoniated Fertilizer,	D. Miller, Ranson,
7923	Hubbard's Excelsior Mixture,	Geo. I. Seltzer, Orwigsburg,
8077	Hubbard's Excelsior Mixture,	S. Leroy Tuttle, Franklin,
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
7975	Keystone Economy Grain Compound,	Wm. Cassel, Hanoverdale,
7690	Keystone Economy Grain Compound,	James Gernett, Nazareth,
7456	Keystone Special Pennsylvania Grain Mixture.	Geo. B. Cunfer, Lehighton,
7397	Keystone Special Pennsylvania Grain Mixture.	Robert Yenson, Elverson,
	KOLLER FERTILIZER CO., SEITZLAND, PA.	
7651	Koller's Two and Ten Phosphate,	Summit Lumber Co., New Freedom,
	THE LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.	
7403	Corn, Grass and Wheat Special,	Emanuel Heltzel, Bedford,
7414	Corn, Grass and Wheat Special,	Levi Imler, Bedford,
7835	Corn, Grass and Wheat Special,	Samuel Yeatter, Burnham,
7254	Lancaster Favorite,	Josiah Flinchbaugh, Windsor,
7404	Lancaster Favorite,	Emanuel Heltzel, Bedford,
7532	Lancaster Favorite,	Levi Winters, Annville,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
7.27	*0.90	1.23	11.08	----------	*9.73	10.00	1.35	1.00	31 75	7793
3.35	0.73	0.41	8.94	9.00	8.31	8.00	0.63	1.00	23 00	7137
4.49	0.99	0.82	10.49	10.00	9.72	9.00	0.77	1.00	26 00	7135
8.07	0.98	0.82	9.25	9.00	8.56	8.00	0.69	1.00	25 00	7666
7.42	1.14	0.82	10.75	9.00	9.60	8.00	1.15	1.00	--------	7765
11.33	*1.29	1.65	11.61	11.00	10.27	10.00	1.34	1.00	32 25	7430
3.30	0.98	0.82	9.54	9.00	8.37	8.00	1.17	1.00	25 00	7667
9.79	1.98	1.65	10.73	10.00	9.95	9.00	0.78	1.00	32 00	7155
6.47	1.60	1.45	8.67	8.00	7.65	7.00	1.02	1.00	34 00	7152
8.93	1.58	1.45	9.29	8.00	7.93	7.00	1.36	1.00	29 00	7280
7.15	0.75	0.41	11.34	9.00	9.85	8.00	1.49	1.00	32 00	7153
3.31	0.60	0.41	10.14	9.00	8.71	8.00	1.43	1.00	24 00	7282
6.15	1.03	0.82	10.61	10.00	9.82	9.00	0.79	1.00	25 00	7748
5.12	1.39	0.82	10.20	10.00	9.45	9.00	0.75	1.00	--------	7781
2.57	1.20	0.82	11.35	10.00	10.52	9.00	0.83	1.00	--------	7761
2.32	1.00	0.82	9.80	9.00	8.69	8.00	1.11	1.00	24 40	7685
4.00	1.15	0.41	9.67	9.00	8.55	8.00	1.12	1.00	28 00	7879
2.35	0.90	0.41	9.72	9.00	8.66	8.00	1.06	1.00	21 90	7686
3.62	1.20	0.82	11.74	11.00	9.92	10.00	1.82	1.00	--------	7866
3.12	0.83	0.41	8.97	9.00	8.73	8.00	0.24	1.00	29 00	7775
1.97	0.76	0.41	9.18	9.00	*7.57	8.00	1.61	1.00	25 00	7815
10.68	2.53	2.46	10.92	11.00	*9.11	10.00	1.81	1.00	45.00	7217
6.50	1.75	1.64	12.31	11.00	10.64	10.00	1.67	1.00	--------	7923
4.75	1.64	1.64	10.55	11.00	*9.56	10.00	0.99	1.00	38 00	8077
5.25	1.20	0.82	11.66	10.00	10.23	9.00	1.43	1.00	--------	7975
3.33	1.14	0.82	11.19	10.00	9.19	9.00	2.00	1.00	26 50	7690
7.89	1.10	0.82	13.52	13.00	11.95	12.00	1.57	1.00	29 00	7456
7.85	1.18	0.82	13.92	13.00	12.27	12.00	1.65	1.00	--------	7397
4.69	1.95	1.65	12.88	11.00	10.60	10.00	2.28	1.00	30 00	7651
4.34	0.72	0.40	13.30	11.00	12.32	10.00	0.98	1.00	--------	7403
4.16	0.58	0.40	10.88	11.00	10.15	10.00	0.73	1.00	24 00	7414
2.70	0.80	0.40	11.29	11.00	10.77	10.00	0.52	1.00	27 00	7835
7.00	1.79	1.60	11.16	11.00	10.24	10.00	0.92	1.00	34 00	7254
2.33	1.75	1.60	11.86	11.00	10.38	10.00	1.48	1.00	--------	7404
8.25	1.68	1.60	12.04	11.00	10.61	10.00	1.43	1.00	--------	7532

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
8039	No. 4 Rising Sun,	H. M. Stouffer, Leola,
7357	No. 10 Economist,	G. B. M. Frey, Muncy,
7870	No. 10 Economist,	J. Franklin Mast, Elverson,
7192	No. 10 Economist,	J. W. Seitzinger, Strausstown,
7826	No. 11 Keystone Brand,	G. B. M. Frey, Muncy,
8055	No. 11 Keystone Brand,	John Greenleaf, Quarryville,
7308	No. 12 Wheat Special,	Morris & Clarence Bunting, Oxford,
7463	No. 12 Wheat Special,	Elias Morgan, Pine Grove,
7762	No. 12 Wheat Special,	J. A. Walter, Middleburg,
7309	No. 14 Wheat and Grass,	Morris & Clarence Bunting, Oxford,
7827	No. 14 Wheat and Grass,	G. B. M. Frey, Muncy,
7782	No. 14 Wheat and Grass,	Howard Hoffman, Denver,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
7382	Levan's Golden King Fertilizer,	A. F. Baver, Hamburg,
7149	Levan's Golden King Fertilizer,	J. M. King, Cashtown,
7285	Levan's Golden King Fertilizer,	S. N. Moore, Echo,
7284	Levan's Grain Fertilizer,	S. N. Moore, Echo,
7819	Levan's Grain and Grass Fertilizer,	Gheen, Spigelmyer & Phleger, Antes Fort,
7468	Levan's Grain and Grass Fertilizer,	Hegins Grange, Hegins,
7464	Levan's Grain and Grass Fertilizer,	Robert Kinsey, Pine Grove,
	LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
7779	Listers ½-8-0 Fertilizer,	J. B. Rohrer, Port Treverton,
7840	Listers 2-12-0 Fertilizer,	F. B. Hershberger, Mattawana,
7630	Listers 2-12-0 Fertilizer,	Petersburg Grain, Feed & Supply Co., Petersburg.
8042	Listers Fish Brand Fertilizer,	Geo. Bard, Leacock,
7244	Listers Fish Brand Fertilizer,	Adam Bartgess, Millheim,
7605	Listers Fish Brand Fertilizer,	Zehner Brothers, Bloomsburg,
7886	Listers Grain Phosphate,	W. H. Fritz, Berwyn,
8090	Listers Plant Food, 1916,	T. T. Harrison, Edinboro,
7770	Listers Soil Improver,	A. Lauver, Middleburg,
7942	Listers Soil Improver,	T. J. Murphy, Clearfield,
7356	Listers Soil Improver,	B. Savidge, Turbotville,
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
7965	Martin's Ammoniated Phosphate 1-0-8,	Edwin Houck, Bangor,
7968	Martin's Ammoniated Phosphate 2-8-0,	Edwin Houck, Bangor,
7884	Martin's Pure Dissolved Animal Matter,	R. E. Mason, Hatboro,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
7351	Farmers Profit,	Hartley & Blaine, Turbotville,
7830	Miller's Grain Grower,	D. B. Esh, Spruce Hill,
7726	Miller's Grain Grower,	W. H. Hoffman, Tripoli,
7188	Miller's Grain Grower,	N. R. Yost, Myerstown,
7141	Miller's No. 1 Special,	Biglerville Warehouse Co., Biglerville,
7725	Miller's No. 1 Special,	W. H. Hoffman, Tripoli,
7360	Miller's No. 1 Special,	H. L. Ort, Pennsdale,
	NASSAU FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
8001	Ammoniated Potato Compound,	Joe Grab, Clifton,
8002	Ammoniated Truck Producer,	Joe Grab, Clifton,
7510	Buckwheat Special,	J. Chamberland, Thornhurst,
7512	Common Sense Fertilizer, 1916,	J. Chamberland, Thornhurst,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
7.30	*1.92	2.47	14.43	----------	*10.49	12.00	3.94	--------	40 00	8039
4.83	0.42	trace	11.53	----------	*8.86	10.00	2.67	1.00	27 00	7357
2.67	0.50	trace	13.18	11.00	*8.63	10.00	4.55	1.00	21 25	7870
5.72	0.30	trace	9.69	11.00	*8.72	10.00	0.97	1.00	22 00	7192
7.20	0.80	0.82	11.25	----------	9.81	8.00	1.44	1.00	26 00	7826
6.62	0.94	0.82	9.43	9.00	7.95	8.00	1.48	1.00	24 75	8055
8.74	*1.05	1.65	13.55	11.00	11.30	10.00	2.25	1.00	35 00	7308
9.52	1.64	1.65	14.29	11.00	10.77	10.00	3.52	1.00	30 25	7463
10.67	*0.90	1.65	13.74	11.00	11.83	10.00	1.91	1.00	34 00	7762
4.86	0.89	0.82	13.50	11.00	10.96	10.00	2.54	1.00	29 00	7309
7.10	0.83	0.82	10.91	11.00	*9.34	10.00	1.57	1.00	28 00	7827
7.67	0.65	0.82	10.84	----------	*9.41	10.00	1.43	1.00	--------	7782
3.92	1.10	0.82	12.62	11.00	*7.54	10.00	5.08	1.00	27 00	7382
5.29	1.03	0.82	12.77	11.00	*8.69	10.00	4.08	1.00	29 00	7149
2.93	0.95	0.82	13.56	11.00	*8.59	10.00	4.97	1.00	29 00	7285
4.30	0.60	0.41	10.15	9.00	8.85	8.00	1.30	1.00	24 00	7284
1.82	1.95	1.65	13.90	11.00	12.14	10.00	1.76	1.00	--------	7819
5.45	1.89	1.65	12.46	11.00	*8.75	10.00	3.71	1.00	--------	7468
4.50	1.84	1.65	12.37	11.00	10.01	10.00	2.36	1.00	--------	7464
3.32	0.82	0.41	10.05	9.00	9.34	8.00	0.71	1.00	26 00	7779
6.57	1.67	1.65	13.59	13.00	12.20	12.00	1.39	1.00	--------	7840
7.42	1.67	1.65	13.52	13.00	12.17	12.00	1.35	1.00	35 00	7630
5.55	1.65	1.23	11.63	11.00	10.41	10.00	1.22	1.00	31 00	8042
7.25	1.38	1.23	11.35	11.00	10.10	10.00	1.25	1.00	36 25	7244
6.70	1.58	1.23	11.76	11.00	10.33	10.00	1.43	1.00	31 00	7605
5.10	1.60	1.23	11.74	11.00	10.29	10.00	1.45	1.00	32 50	7886
2.72	1.49	0.82	12.48	11.00	10.66	10.00	1.82	1.00	32 00	8090
4.40	1.24	0.82	9.76	9.00	8.38	8.00	1.38	1.00	--------	7770
2.55	1.05	0.82	9.82	9.00	8.25	8.00	1.57	1.00	30 00	7942
4.28	1.52	0.82	9.35	9.00	8.14	8.00	1.21	1.00	26 00	7356
2.72	0.81	0.82	13.02	9.00	11.44	8.00	1.58	1.00	26 00	7965
2.00	1.68	1.65	11.51	9.00	8.81	8.00	2.70	1.00	30 75	7968
3.85	2.43	1.65	15.36	----------	*11.58	12.00	3.78	--------	45 00	7884
2.22	1.76	1.44	10.08	9.50	9.15	9.00	0.93	0.50	30 00	7351
1.85	2.01	1.65	13.97	12.50	12.86	12.00	1.11	0.50	--------	7830
2.27	2.05	1.65	13.52	12.50	12.60	12.00	0.92	0.50	33 50	7726
5.18	1.85	1.65	13.43	12.50	12.41	12.00	1.02	0.50	--------	7188
2.43	2.10	1.65	11.10	10.50	9.86	10.00	1.24	0.50	32 50	7141
1.80	1.89	1.65	11.48	10.50	10.46	10.00	1.02	0.50	31 75	7725
4.41	1.75	1.65	11.00	10.50	10.18	10.00	0.82	0.50	34 50	7360
6.00	2.40	2.47	11.41	11.00	10.27	10.00	1.14	1.00	45 00	8001
6.42	3.33	3.29	11.03	11.00	10.16	10.00	0.87	1.00	48 50	8002
5.00	0.87	0.82	9.73	9.00	9.18	8.00	0.55	1.00	33 00	7510
5.84	1.85	1.65	12.17	11.00	11.12	10.00	1.05	1.00	34 00	7512

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
8046	N. A. C. Brand 2-10-0,	John T. Groff, Christiana,
	G. OBER & SONS CO., BALTIMORE, MD.	
7787	Ober's Liberty Fish Guano,	J. L. Ebersole, Elizabethtown,
7203	Ober's Sun Beam Guano,	Harvey Gernet, Myerstown,
	OYLER & SPANGLER FERTILIZER WORKS, INC., GETTYSBURG, PA.	
7139	Special,	G. C. Myers, Gardners,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN GRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
8006	Patapsco Ammoniated Compound,	George Musick, Yostville,
8020	Patapsco Ammoniated Compound,	S. S. Vansickel, Courtez,
7961	Patapsco Farmers Delight,	Ackermanville Milling Co., Ackermanville,
7698	Patapsco Farmers Delight,	Geo. Itterly, Wind Gap,
7208	Patapsco Golden Crop Fertilizer,	Fred Mick, Cresco,
7215	Patapsco Golden Crop Fertilizer,	Oscar Vanbusker, Bald Mount,
8022	Patapsco Hay Maker Revised,	S. S. Vansickel, Courtez,
7500	Patapsco Truckers Delight,	John Nagy, Ariel,
7216	Patapsco Truckers Delight,	Oscar Vanbusker, Bald Mount,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
7597	Piedmont Fish Guano,	B. B. Low & Son, Orangeville,
	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	
8985	Guano Fertilizer,	W. J. Gilson, Titusville,
	THE POLLOCK FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7906	Pollock's Ammoniated Fertilizer A,	H. O. Andrews, Mapleton Depot,
7362	Pollock's Ammoniated Fertilizer A,	G. M. Walters, Milton,
7268	Pollock's Grain Special,	John Generich, York New Salem,
7401	Pollock's War Brand,	Blackburn Milling Co., Cessna,
7618	Pollock's War Brand,	John L. Bortz, Bedford,
7828	Pollock's War Brand,	W. J. Wilt, Port Treverton,
	THE RAMSBURG FERTILIZER CO., FREDERICK, MD.	
7257	Ammoniated Phosphate,	Aug. Hamme, York,
7258	Excelsior Plant Food,	Aug. Hamme, York,
7256	Queen,	Aug. Hamme, York,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
7176	Rasin's Royal Ammoniated Superphosphate,	W. H. Walker & Co., Kennett Square,
7175	Rasin's Special Fish Mixture,	W. H. Walker & Co., Kennett Square,
	READING BONE FERTILIZER CO., READING, PA.	
7509	Dissolved Animal Matter,	Lewis Kissler, Gouldsboro,
7642	Dissolved Animal Matter,	John W. Root, Kimberton,
7715	Reading All Crop Special,	F. A. Scheiver, Slatington,
7322	Reading Special Grain and Grass Producer,	O. F. Bowersox, Millmont,
7374	Reading Special Grain and Grass Producer,	Newmanstown Realty Co., Richland,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
7.12	*1.43	1.65	11.49	11.00	10.85	10.00	0.64	1.00	--------	8046
8.57	1.05	1.03	15.88	14.00	15.05	13.00	0.83	1.00	--------	7787
8.31	1.58	1.65	11.75	11.00	10.69	10.00	1.06	1.00	--------	7203
3.87	2.15	1.65	13.46	----------	*10.19	11.00	3.27	--------	32 30	7139
1.64	1.25	0.82	12.05	11.00	10.91	10.00	1.14	1.00	40 00	8006
2.07	1.06	0.82	11.54	11.00	10.76	10.00	0.78	1.00	40 00	8020
2.12	1.05	0.82	9.18	9.00	8.03	8.00	1.15	1.00	26 00	7961
2.92	1.18	0.82	9.59	9.00	8.31	8.00	1.28	1.00	25 00	7698
4.63	1.81	1.65	11.80	11.00	10.83	10.00	0.97	1.00	43 00	7208
3.26	2.51	1.65	11.44	11.00	10.15	10.00	1.29	1.00	37 00	7215
8.50	5.62	5.76	6.98	7.00	6.28	6.00	0.70	1.00	57 00	8022
1.85	2.84	2.47	11.05	11.00	10.51	10.00	0.54	1.00	38 00	7500
3.14	2.86	2.47	12.02	11.00	10.90	10.00	1.12	1.00	42 00	7216
4.33	1.99	1.65	11.37	----------	*9.72	10.00	1.65	--------	33 00	7597
2.40	2.47	1.43	11.63	11.00	*7.79	9.00	3.84	2.00	40 00	8085
4.47	1.30	0.82	11.62	11.00	10.71	10.00	0.91	1.00	28 00	7906
7.31	1.10	0.82	11.44	11.00	10.29	10.00	1.15	1.00	--------	7362
5.68	1.80	1.65	9.50	9.00	*7.77	8.00	1.73	1.00	--------	7268
3.05	0.79	0.41	9.49	9.00	8.71	8.00	0.78	1.00	24 00	7401
4.90	0.73	0.41	9.18	9.00	8.13	8.00	1.05	1.00	24 00	7618
2.65	0.69	0.41	9.40	9.00	8.25	8.00	1.15	1.00	26 00	7828
7.91	0.98	0.82	13.79	13.00	11.62	11.00	2.17	2.00	28 50	7257
8.81	1.69	1.65	13.10	12.00	10.40	10.00	2.70	2.00	30 50	7258
5.46	0.77	0.41	11.61	11.00	*9.62	10.00	1.99	1.00	25 00	7256
7.83	0.63	0.41	11.35	11.00	10.44	10.00	0.91	1.00	27 00	7176
10.72	1.18	0.82	11.16	11.00	10.00	10.00	1.16	1.00	32 00	7175
9.42	1.09	0.82	13.20	11.00	12.33	10.00	0.87	1.00	33 00	7509
4.54	1.13	0.82	12.56	11.00	10.29	10.00	2.27	1.00	32 00	7642
4.45	*1.37	1.64	10.59	11.00	*9.07	10.00	1.52	1.00	34 00	7715
5.66	0.80	0.82	7.55	8.00	7.04	7.00	0.51	1.00	25 25	7322
6.17	0.85	0.82	8,71	8,00	7.79	7.00	0.92	1.00	--------	7374

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	READING CHEMICAL COMPANY, READING, PA.	
7536	General Crop Grower,	Harry Murry, Myerstown,
7900	General Crop Grower,	The Grange, Fishertown,
7915	Royal Fish Guano,	Samuel Cessna, Bedford,
7528	Royal Fish Guano,	Harry Murry, Lebanon,
7918	Reading Soil Builder,	F. J. Lindner, Ringtown,
7434	Reading Soil Builder,	Isaac Zerby, Pine Grove,
	F. S. ROYSTER GUANO CO., BALTIMORE, MD.	
7812	Royster's Grain and Grass Ammoniated Phosphate.	E. S. Minnich, Brillharts,
7673	Roysters Grain and Grass Ammoniated Phosphate.	John S. Romig, Wind Gap,
7231	Royster's Grain and Grass Ammoniated Phosphate.	J. S. Waite & Co., Bellefonte,
7173	Royster's Penguin Ammoniated Phosphate,	S. K. Chambers & Brother, Elkview,
7148	Royster's Prime Fish Ammoniated Phosphate.	J. M. Hartman, Cashtown,
8049	Royster's Prime Fish Ammoniated Phosphate.	H. E. Mullen, Christiana,
7491	Royster's Purity Ammoniated Phosphate,	F. C. Deveny, Forest City,
7172	Royster's Royal Blue Ammoniated Phosphate.	S. K. Chambers & Brother, Elkview,
8084	Royster's Royal Blue Ammoniated Phosphate.	Titusville Suply Co., Titusville,
7869	Royster's Royal Blue Ammoniated Phosphate.	Henry S. Zook, Elverson,
7432	Royster's Special Wheat Ammoniated Phosphate.	Geo. Boyer, Pine Grove,
	SCHAAL SHELDON FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BUFFALO, N. Y.	
7615	Ammoniated Superphosphate No. 1,	J. E. Jackson, Everett,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
7165	Scott's Ammoniated Base,	Edw. W. Rupert, Oxford,
7167	Scott's Crop Grower,	Edw. W. Rupert, Oxford,
7519	Scott's Special Grain Grower,	E. D. Greenawalt, Albany,
7166	Scott's Special Grain Grower,	Edw. W. Rupert, Oxford,
	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.	
7633	Swift Sure for Fall Trade,	W. E. Erwin & Son, Somerton,
7199	Swift Sure for Fall Trade,	A. L. Palsgrove, Friedensburg,
7440	Swift Sure for Fall Trade,	H. L. Flory, Mt. Joy,
7292	Swift Sure for Wheat and Clover,	F. E. Bailey, Northbrook,
7442	Swift Sure for Wheat and Clover,	A. L. Palsgrove, Friedensburg,
	H. H. SMYSER, YORK, PA.	
7811	Chicago Ammoniated Fertilizer,	H. H. Smyser, York,
	SWIFT & COMPANY, BALTIMORE, MD.	
7897	Swift's Ammoniated Phosphate,	Ross Goodman, Huntingdon,
7473	Swift's Ammoniated Phosphate,	James Lucas, Valley View,
7286	Swift's Ammoniated Phosphate,	Jas. McCullough & Son, Kittanning,
7300	Swift's Clay Soil Special 2-12-0,	Thomas Haines Co., Malvern,
8067	Swift's Clay Soil Special 2-12-0,	Ira M. Osborn, Kenard,
7943	Swift's Clay Coil Special 2-12-0,	T. L. Wall, Clearfield,
7154	Swift's Diamond "C" Grain Fertilizer,	S. K. Chambers & Brother, Elkview,
7385	Swift's Diamond "C" Grain Fertilizer,	F. H. Rentschler, Shartelsvills,
7452	Swift's No. 4 High Grade Grain Grower,	E. W. Dreisbach, Weissport,
7369	Swift's No. 4 High Grade Grain Grower,	F. E. Houck, Catawissa,

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
6.84	1.16	0.82	13.97	13.00	13.24	12.00	0.73	1.00	34 00	7536
2.95	0.78	0.82	11.61	13 00	*10.03	12.00	1.58	1.00	26 00	7900
4.19	1.93	1.02	14.16	13.00	12.06	12.00	2.10	1.00	21 60	7915
8.14	1.23	1.02	15.14	13.00	14.26	12.00	0.88	1.00	37 00	7528
4.30	*1.31	1.64	11.38	11.00	9.98	10.00	1.40	1.00	30 00	7918
5.85	1.50	1.64	11.25	11.00	10.04	10.00	1.21	1.00	35 00	7434
1.92	1.18	0.82	9.89	8.50	8.27	8.00	1.62	0.50	26 00	7812
0.72	1.15	0.82	9.18	8.50	*6.96	8.00	2.22	0.50	24 00	7673
2.85	1.16	0.82	8.71	8.50	*7.55	8.00	1.16	0.50	27 50	7231
6.62	1.68	1.65	12.67	10.50	10.04	10.00	2.63	0.50	--------	7173
3.90	2.68	1.65	9.12	8.50	*7.40	8.00	1.72	0.50	30 00	7148
1.45	1.88	1.65	9.17	8.50	*7.07	8.00	2.10	0.50	30 00	8049
2.29	1.10	0.82	8.48	8.50	*7.57	8.00	0.91	0.50	33 00	7491
5.14	1.03	0.82	11.12	10.50	*9.69	10.00	1.43	0.50	--------	7172
1.56	0.97	0.82	10.65	10.50	*8.55	10.00	2.10	0.50	30 00	8084
2.20	1.25	0.82	11.25	10.50	*9.80	10.00	1.45	0.50	30 00	7869
6.33	0.95	0.82	13.84	12.50	12.82	12.00	1.02	0.50	--------	7432
2.98	1.04	0.82	13.14	11.00	12.04	10.00	1.10	1.00	29 50	7615
5.07	1.87	1.65	13.20	14.00	12.06	12.00	1.14	2.00	35 50	7165
2.55	1.89	1.65	9.53	10.00	8.65	8.00	0.88	2.00	32 50	7167
3.00	1.14	0.82	11.35	12.00	10.52	10.00	0.83	2.00	29 00	7519
5.26	1.05	0.82	10.82	12.00	10.12	10.00	0.70	2.00	29 00	7166
2.50	2.20	1.65	14.67	14.00	*11.19	12.00	3.48	2.00	40 00	7633
9.85	1.71	1.65	15.29	14.00	12.64	12.00	2.65	2.00	--------	7199
8.52	1.80	1.65	15.24	14.00	12.20	12.00	3.04	2.00	39 00	7440
8.70	1.44	0.82	15.37	14.00	12.96	13.00	2.41	1.00	34 00	7292
6.27	1.53	0.82	15.47	14.00	13.05	13.00	2.42	1.00	30 00	7442
5.64	1.25	1.03	14.67	11.00	11.38	10.00	3.29	1.00	27 00	7811
2.70	1.18	0.82	11.10	10.00	10.04	10.00	1.06	--------	27 00	7897
4.80	0.98	0.82	10.37	10.00	*9.76	10.00	0.61	--------	--------	7473
5.19	1.27	0.82	11.07	10.00	9.96	10.00	1.11	--------	31 00	7286
5.47	1.71	1.65	14.12	12.00	12.12	12.00	2.00	--------	35 00	7300
4.52	1.88	1.65	14.64	12.00	*11.48	12.00	3.16	--------	34 50	8067
3.40	1.87	1.65	13.28	12.00	11.86	12.00	1.42	--------	34 25	7943
4.66	1.13	0.82	8.48	8.00	7.82	8.00	0.66	--------	34 00	7154
4.06	0.97	0.82	7.84	8.00	*7.33	8.00	0.51	--------	--------	7385
6.07	1.30	1.23	14.03	12.00	12.31	12.00	1.72	--------	33 00	7452
5.08	1.56	1.23	14.47	12.00	13.09	12.00	1.38	--------	32 50	7369

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	J. M. TEMPLIN, HONEY BROOK, PA.	
8043	No. 4 Atlas Brand,	Wayne Groff, Gap,
	I. P. THOMAS & SON CO., PHILADELPHIA, PA.	
7864	Thomas Triumph Manure,	Theo. M. Griffith & Son, Downingtown,
7986	Thomas Triumph Manure,	D. L. Hertzler, Mechanicsburg,
7987	Thomas Wheat and Corn Guano,	D. L. Hertzler, Mechanicsburg,
7295	Thomas Wheat and Corn Guano,	W. B. Passmore, Embreeville,
7378	Thomas Wheat and Corn Guano,	Howard Welsh, Douglassville,
	JACOB TRINLEY & SONS, LINFIELD, PA.	
7316	Favorite Phosphate,	Estate of A. M. F. Stiteler, Uwchland,
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
7689	Wheat Grower,	Clinton D. Kremmer, Wind Gap,
7174	Wheat Grower,	H. A. Mendenhall, Toughkenemon,
	THE J. E. TYGERT COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
7717	Ammoniated Fertilizer A,	C. P. Oswald, Best,
7537	Ammoniated Fertilizer AAA,	Emanuel Merkey, Bethel,
7718	Pawnee Phosphate,	C. P. Oswald, Best,
	VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.	
7577	V. C. Special Crop Formula,	N. H. Blough, Davidsville,
8089	V. C. Special Fish Preparation,	T. T. Harrison, Edinboro,
7952	V. C. Special Fish Preparation,	K. L. McClain & Co., Tyrone,
7682	V. C. Special Fish Preparation,	J. Milton Schick, Stroudsburg,
	WASHINGTON, ALEXANDER & COOKE CO., CHARLES TOWN, W. VA.	
7816	W. A. & C.'s Farmers Friend,	R. K. Boyer, Glatfelter,
	THE W. E. WHANN CO., PHILADELPHIA, PA.	
7638	Whann's Chester Valley Liberty Brand Superphosphate A.	Henry S. Hittel Est., Port Kennedy,
	THE ROBERT A. WOOLRIDGE CO., BALTIMORE, MD.	
7619	Woolridge's General Crop Grower,	Cyrus Brumbaugh, New Enterprise,
7249	Woolridge's General Crop Grower,	C. C. Catherman, Hartleton,
7409	Woolridge's General Crop Grower,	J. R. Nowry, Buffalo Mills,
7843	Woolridge's Special Fish Mixture,	R. E. Brindle, Belleville,
7620	Woolridge's Special Wheat and Grass Grower.	Cyrus Brumbaugh, New Enterprise,
	YORK CHEMICAL WORKS, YORK, PA.	
7591	Dempwolf's Crop Grower,	S. R. Kline, Benton,
7951	Dempwolf's Crop Grower,	Wallace Sherbine, Wilmore,
7263	Dempwolf's Crop Grower,	J. J. Spangler, Littlestown,
7660	Dempwolf's Dissolved Animal Bone,	Red Lion Farmers' Co-operative Association, Red Lion.
7553	Dempwolf's Prosperity,	A. T. Baird, Lock Haven,
7991	Dempwolf's Prosperity,	M. D. Ebersole, Middletown,
7588	Dempwolf's Prosperity,	S. R. Kline, Benton,
7643	Dempwolf's Royal Mixture,	Mourey-Latshaw Hardware Co., Spring City.
7729	Dempwolf's Royal Mixture,	J. B. Spera, Dillsburg,
8034	Dempwolf's Royal Mixture,	H. M. Stouffer, Leola,
		Average,

PHORIC ACID FERTILIZER—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
9.82	2.00	1.65	11.99	12.00	11.56	10.00	0.43	2.00	--------	8043
8.77	1.24	0.82	11.58	10.50	10.99	10.00	0.59	0.50	32 00	7864
9.07	1.19	0.82	12.51	10.50	10.65	10.00	1.86	0.50	27 00	7986
4.45	1.88	1.65	11.42	10.50	10.37	10.00	1.05	0.50	32 00	7987
6.66	1.85	1.65	12.04	10.50	10.68	10.00	1.36	0.50	35 00	7295
6.67	2.05	1.65	11.58	10.50	10.23	10.00	1.35	0.50	--------	7378
9.35	2.00	1.65	11.21	11.00	10.69	10.00	0.52	1.00	33 50	7316
1.82	1.40	0.82	12.69	10.00	9.50	9.00	3.19	1.00	25 50	7689
3.86	1.10	0.82	11.58	10.00	9.86	9.00	1.72	1.00	30 00	7174
2.45	0.95	0.82	12.16	11.00	10.68	10.00	1.48	1.00	28 50	7717
4.76	2.50	2.47	12.22	11.00	10.38	10.00	1.84	1.00	38 00	7587
2.75	1.08	0.82	10.37	9.00	9.43	8.00	0.94	1.00	26 50	7718
6.81	*1.40	1.65	11.61	11.00	10.82	10.00	0.79	1.00	38 00	7577
3.85	1.40	0.82	11.71	11.00	10.06	10.00	1.65	1.00	32 00	8089
3.87	1.21	0.82	12.08	11.00	10.87	10.00	1.21	1.00	29 00	7952
3.05	1.13	0.82	12.35	11.00	11.11	10.00	1.24	1.00	26 25	7682
2.80	1.05	0.82	9.86	9.00	8.29	8.00	1.57	1.00	24 50	7816
1.90	1.25	0.82	11.99	11.00	10.36	10.00	1.63	1.00	23 75	7638
6.00	1.03	0.82	10.36	9.00	8.87	8.00	1.49	1.00	--------	7619
4.27	1.03	0.82	10.27	9.00	8.64	8.00	1.63	1.00	--------	7249
3.35	0.89	0.82	9.89	9.00	8.59	8.00	1.30	1.00	27 00	7409
2.97	2.84	2.06	10.40	9.00	9.25	8.00	1.15	1.00	33 75	7843
5.32	1.35	1.23	12.37	11.00	10.51	10.00	1.86	1.00	25 00	7620
7.15	0.70	0.82	11.84	----------	11.28	10.00	0.56	--------	28 50	7591
3.24	1.00	0.82	12.37	----------	11.82	10.00	0.55	--------	36 00	7951
7.16	0.87	0.82	9.80	----------	*9.23	10.00	0.57	--------	26 00	7263
3.41	2.69	2.47	19.99	----------	14.61	12.00	5.38	--------	48 30	7660
4.72	2.05	1.65	13.14	----------	12.37	12.00	0.77	--------	35 00	7553
2.00	2.05	1.65	13.13	----------	12.42	12.00	0.71	--------	35 00	7991
7.10	1.95	1.65	13.87	----------	13.18	12.00	0.69	--------	35 00	7588
5.37	1.55	1.65	11.67	----------	10.36	10.00	1.31	--------	38 00	7643
2.22	2.08	1.65	12.05	----------	11.16	10.00	0.89	--------	31 75	7729
3.20	2.03	1.65	11.20	----------	10.56	10.00	0.64	--------	34 00	8034
4.80	1.51	----------	11.71	----------	10.18	--------	1.53	--------	31 65	--------

*Deficient.

TABLE NO. III.—GROUND

Furnishing Nitrogen

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
8040	Armours Raw' Bone Meal,	Sam Bard, Leacock,
8026	Armour's Raw Bone Meal,	G. L. Moore, Brownsville,
	ASSOCIATED CHEMICAL CO., BALTIMORE, MD.	
7412	Ground Steamed Bone,	H. E. Mason, Osterburg,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
8014	Baugh's Pure Steamed Bone,	W. McDounld & Son, Moosic,
7313	Baugh's Raw Bone Meal,	Chas. B. Hannum, Rosedale,
7482	Baugh's Raw Bone Meal,	S. B. Hays, Enon Valley,
7948	Baugh's Raw Bone Meal,	Routch & Swartzle, Clearfield,
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
7888	Lister's Bone Meal, 1916,	W. H. Fritz, Berwyn,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
7794	N. A. C. Brand Ground Bone,	H. H. Hershey, Lititz,
	CORRAL S. PAGE, HYDE PARK, VT.	
8016	Page's Raw Ground Bone,	W. McDounld & Son, Moosic,
	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	
8086	No. 1 Pure Raw Bone Meal,	W. J. Gilson, Titusville,
	READING BONE FERTILIZER CO., READING, PA.	
7170	Pure Bone Meal,	P. F. Powell, West Grove,
	ROBERT A. REICHARD, ALLENTOWN, PA.	
7457	Raw Bone Meal,	James Klauss, Tamaqua,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
7321	Royster's Pure Raw Bone Meal,	Harvey L. Moses, Chester Springs,
8050	Royster's Pure Raw Bone Meal,	H. E. Mullen, Christiana,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
7162	Scott's Pure Ground Raw Bone,	Edw. W. Rupert, Oxford,
	SWIFT & COMPANY, BALTIMORE, MD.	
7301	Swift's Bone Meal Fertilizer,	Thomas Haines Co., Malvern,
7287	Swift's 2¼-29 Bone Meal Fertilizer,	Jas. McCullough & Son, Kittanning,
8068	Swift's 2¼-29 Bone Meal Fertilizer,	I. M. Osborn, Kenard,
	JACOB TRINLEY & SONS, LINFIELD, PA.	
7315	Pure Raw Bone Meal,	Estate of A. M. F. Stiteler, Uwchland,
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
7296	Pure Ground Bone,	Edw. Brinton & Son, West Chester,

BONE FERTILIZERS.

and Phosphoric Acid.

	CHEMICAL ANALYSIS.				MECHANICAL ANALYSIS.			
	NITROGEN.		PHOSPHORIC ACID.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Fine.	Coarse.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
6.77	4.60	3.70	22.97	22.00	61	39	---------	8040
7.12	4.42	3.70	23.00	22.00	54	46	54 00	8026
4.15	2.19	2.05	28.13	25.00	61	39	53 00	7412
4.07	2.23	1.65	25.21	25.00	64	36	60 00	8014
6.91	4.17	3.30	19.34	18.30	67	33	62 00	7313
6.04	4.84	3.30	22.58	18.30	57	43	59 60	7482
5.30	65	3.30	21.88	18.30	59	41	60 00	7948
9.07	3.1[illegible]	2.47	24.36	22.88	55	45	59 00	7888
3.70	3.38	2.46	*22.30	22.88	59	41	---------	7794
6.40	4.39	3.70	*20.56	22.00	35	65	60 00	8016
3.00	3.73	3.70	*21.49	22.00	78	22	60 00	8086
4.80	2.49	2.46	25.05	23.00	63	37	52 00	7170
4.92	3.53	3.70	24.33	23.00	47	53	53 00	7457
7.60	4.50	3.70	23.09	21.50	54	46	60 00	7321
6.60	4.43	3.70	22.20	21.50	53	47	58 00	8050
7.93	4.78	3.70	22.22	21.00	46	54	48 00	7162
3.79	2.70	2.47	25.23	24.00	53	47	53 00	7301
4.83	2.42	1.85	*27.99	29.00	70	30	50 00	7287
3.35	2.80	1.85	*28.19	29.00	78	22	45 50	8068
6.54	4.12	3.70	*19.01	20.00	48	52	57 00	7315
4.09	3.10	2.46	25.49	23.00	72	28	55 00	7296

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*Deficient.

TABLE III.—GROUND BONE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE EMIL WAHL MANUFACTURING CO., PHILADELPHIA, PA.	
7637	Warranted Pure Philadelphia Button Bone Meal.	Jos. R. Taggart, Norristown,
	YORK CHEMICAL WORKS, YORK, PA.	
7546	Dempwolf's Raw Bone Meal,	H. F. Biser, Lock Haven,
		Average,

FERTILIZERS—Concluded.

	CHEMICAL ANALYSIS.				MECHANICAL ANALYSIS.			
	NITROGEN.		PHOSPHORIC ACID.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Fine.	Coarse.	Selling price per ton at place of selection.	Chemist's number.
% 8.01	% 4.08	% 3.75	% 25.41	% 25.00	% 85	% 15	$ 58 00	7637
5.15	4.40	3.70	*19.41	22.00	63	37	55 75	7546
5.65	3.70	----------	23.45	----------	60	40	55 85	----------

*Deficient.

TABLE NO. IV.—ACIDULATED

Furnishing

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7772	12% Acid Phosphate,	A. S. Bierly, Selinsgrove,
7693	14% Acid Phosphate,	Milton Edelman, Nazareth,
7592	14% Acid Phosphate,	St. Nicholas Orphanage, Elmhurst,
8062	16% Acid Phosphate,	Farmers' Cooperative Co., Wysox,
7481	16% Acid Phosphate,	Graham Brothers, Darlington,
7506	16% Acid Phosphate,	St. Nicholas Orphanage, Elmhurst,
7611	Apex Acid Phosphate,	H. F. Gump & Sons, Everett,
7161	Basic Lime Phosphate,	H. P. Passmore & Brother, Oxford,
7517	Schaal Sheldon Soluble Phosphate,	J. E. Jackson, Everett,
7808	Schaal Sheldon Soluble Phosphate,	Zinn Brothers, York,
7907	Wheeler's Peerless Acid Phosphate,	Chas. Huston & Brother, Three Springs,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
7581	Ten Per Cent. Acid Phosphate,	John G. Emert, Somerset,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
7676	Baugh's 14% Acid Phosphate,	Peter Frantz, Pen Argyl,
7314	Baugh's 14% Acid Phosphate,	Chas. B. Hannum, Rosedale,
7862	Baugh's 16% Acid Phosphate,	W. J. Pratt, Pocopson,
7205	Baugh's 16% Acid Phosphate,	J. A. Seguine, Cresco,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7210	Bowker's 16% Acid Phosphate,	G. E. Learn, Cresco,
8004	Bowker's Soluble Phosphate,	James Wordell, Gouldsboro,
	CENTRAL CHEMICAL COMPANY, (THOMAS FERTILIZER WORKS), HAGERSTOWN, MD.	
7575	C. C. C. Dissolved Phosphate,	E. S. Thomas, Holsopple,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
8018	E. Frank Coe's 16% Superphosphate,	Henry Koffman, Mt. Cobb,
7221	E. Frank Coe's 16% Superphosphate,	J. Miller, Clark Summit,
7223	E. Frank Coe's 16% Superphosphate,	E. E. White, Edella,
	COLUMBIA GUANO COMPANY, BALTIMORE, MD.	
7841	Columbia High Grade 16% Acid Phosphate,	George Opple, Newton Hamilton,
	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
7224	Consumer's High Grade Acid Phosphate,	E. E. White, Edella,
8061	Consumers' High Grade Acid Phosphate,	A. E. Woodruff & Son, Wysox,
7550	Consumers' Pure Sure Acid Phosphate,	E. H. Hays, Clintondale,
	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA.	
7549	DuBois 16% Acid Phosphate Fertilizer 1919,	E. H. Hays, Clintondale,
7769	DuBois Lime Phosphate 1919,	Yerger Brothers, Middleburg,

PHOSPHATE FERTILIZERS.

Phosphoric Acid.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	$	
2.02	13.74	13.00	13.09	12.00	0.65	1.00	21 00	7772
5.32	16.46	15.00	14.95	14.00	1.51	1.00	23 75	7693
3.05	16.68	15.00	15.15	14.00	1.53	1.00	30 00	7502
4.45	17.69	17.00	17.43	16.00	0.26	1.00	28 50	8062
8.50	17.37	17.00	16.40	16.00	0.97	1.00	29 00	7481
1.51	17.86	17.00	17.43	16.00	0.43	1.00	30 10	7506
2.52	11.28	11.00	10.13	10.00	1.15	1.00	25 60	7611
1.88	15.31	14.00	13.06	13.00	2.25	1.00	27 00	7161
4.29	18.71	17.00	18.33	16.00	0.38	1.00	27 00	7617
3.17	18.66	17.00	18.00	16.00	0.63	1.00	25 75	7808
3.75	15.54	15.00	15.53	14.00	0.01	1.00	24 00	7907
1.27	11.74	11.00	11.29	10.00	0.45	1.00	22 00	7581
6.32	16.58	14.00	16.45	14.00	0.13	----------	19 50	7676
9.33	15.89	14.00	15.76	[illegible].00	0.13	----------	26 00	7314
6.37	17.41	16.00	17.18	16.00	0.23	----------	25 00	7862
8.84	17.16	16.00	17.01	16.00	0.15	----------	26 50	7205
6.59	18.06	17.00	17.04	16.00	1.02	1.00	32 00	7210
3.45	16.24	15.00	15.21	14.00	1.03	1.00	25 00	8004
7.10	17.02	----------	16.42	16.00	0.60	----------	27 50	7575
2.25	17.41	17.00	16.10	16.00	1.31	1.00	31 00	8018
3.61	17.64	17.00	16.95	16.00	0.69	1.00	28 00	7221
3.01	17.75	17.00	16.58	16.00	1.17	1.00	28 00	7223
2.67	18.04	16.50	16.61	16.00	1.43	0.50	----------	7841
2.56	17.03	17.00	16.85	16.00	0.18	1.00	28 00	7224
2.10	15.88	17.00	*15.06	16.00	0.82	1.00	----------	8261
6.70	13.39	15.00	*13.25	14.00	0.14	1.00	25 25	7550
6.00	17.65	16.80	17.36	16.00	0.29	0.80	26 75	7549
2.07	11.15	9.00	9.05	8.00	2.10	1.00	24 00	7769

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*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE EGGERT CHEMICAL CO., CANTON, OHIO.	
7477	16% Acid Phosphate,	J. A. Totten, Volant,
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
7281	14% Acid Phosphate,	Dayton Milling Co., Dayton,
	S. M. HESS & BROTHER, INC., PHILADELPHIA, PA.	
7852	Special High Grade Acid Phosphate,	Geo. H. Baker, Valencia,
7684	Special High Grade Acid Phosphate,	E. V. Willauer, Nazareth,
	M. P. HUBBARD CO., INC., BALTIMORE, MD.	
7408	Hubbard's Soluble Phosphate,	H. S. Suter, New Beuna Vista,
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
7218	Hubbard's 16% Acid Phosphate,	D. Miller, Ranson,
8078	Hubbard's 16% Acid Phosphate,	S. Leroy Tuttle, Franklin,
	INTERNATIONAL AGRICULTURAL CORPORATION (BUFFALO FERTILIZER WORKS), BUFFALO, N. Y.	
8064	Buffalo 16%,	F. W. Engle, Tidioute,
8079	Buffalo 16%,	Chas. King, Cooperstown,
	THE JARECKI CHEMICAL CO., SANDUSKY, OHIO.	
8073	Acid Phosphate,	Wildrick & Wildrick, Hartstown,
	KEYSTONE BONE FERTILIZER COMPANY, PHILADELPHIA, PA.	
7396	Keystone 14% Acid Phosphate,	Eugene Ream, Elverson,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
8011	Grangers' Acid Phosphate,	J. E. Streeter, Scranton,
	LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
7193	No. 8 Acid Phosphate,	J. W. Seitzinger, Strausstown,
7621	No. 16 Phosphoric Acid Special,	Adam Beach, New Enterprise,
7763	No. 16 Phosphoric Acid Special,	J. A. Walter, Middleburg,
	THE LEBANON FERTILIZER WORKS, LEBANON, PA.	
7785	Levan's Acid Phosphate, 16%,	C. M. Brandt, Palmyra,
7346	Levan's Acid Phosphate, 16%,	Mahoning Grange, Danville,
7283	Levan's Acid Phosphate, 16%,	S. N. Moore, Echo,
	LISTER AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
7498	Lister High Grade Acid Phosphate,	E. B. Jermyn, Waymarth,
7277	Lister High Grade Acid Phosphate,	G. W. Martin & Co., Saltsburg,
7834	Lister's Lime Phosphate,	H. M. Hain, Milroy,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
7177	Acid Phosphate 16%,	John Shiffer, Hershey,

PHOSPHATE FERTILIZERS—Continued.

	PHOSPHORIC ACID.							
	TOTAL.		AVAILABLE.		INSOLUBLE.			
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
7.20	17.66	------------	17.36	16.00	0.24	----------	24 50	7477
3.21	16.17	15.00	15.10	14.00	1.07	1.00	25 00	7281
6.47	17.97	17.00	17.13	16.00	0.84	1.00	27 25	7852
3.05	18.79	17.00	17.23	16.00	1.56	1.00	25 25	7684
3.35	14.01	15.00	*13.33	14.00	0.68	1.00	28 00	7408
2.53	18.73	17.00	18.45	16.00	0.28	1.00	28 00	7218
3.35	17.87	17.00	17.73	16.00	0.14	1.00	28 00	8078
2.70	18.43	17.00	16.86	16.00	1.57	1.00	28 00	8064
3.15	18.11	17.00	16.11	16.00	2.00	1.00	28 00	8079
10.92	16.58	71.00	16.41	16.00	0.17	1.00	28 00	8073
5.95	15.54	15.00	14.20	14.00	1.34	1.00	----------	7396
7.17	17.16	16.00	17.03	16.00	0.13	----------	28 00	8011
8.71	16.80	15.00	*13.64	14.00	3.16	1.00	25 00	7193
3.30	15.79	17.00	*10.30	16.00	5.49	1.00	26 25	7021
3.50	14.92	17.00	*11.04	16.00	3.88	1.00	28 50	7763
4.74	17.28	17.00	17.10	16.00	0.18	1.00	24 25	7785
8.00	17.20	17.00	16.52	16.00	0.68	1.00	24 70	7346
7.84	16.88	17.00	16.47	16.00	0.41	1.00	24 00	7283
2.41	17.48	17.00	16.79	16.00	0.69	1.00	29 00	7498
7.42	17.13	17.00	16.89	16.00	0.24	1.00	28 00	7277
2.52	16.07	14.00	13.21	13.00	2.86	1.00	27 75	7834
6.18	16.80	16.50	16.19	16.00	0.61	0.50	26 00	7177

*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	NASSAU FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7513	High Grade Superphosphate,	J. Chamberland, Thornhurst,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
7625	N. A. C. Brand High Grade Acid Phosphate,	R. S. Clark, Huntingdon,
7647	N. A. C. Brand High Grade Acid Phosphate,	W. L. Fry, Paoli,
7796	N. A. C. Brand High Grade Acid Phosphate,	H. H. Hershey, Lititz,
	G. OBER & SONS CO., BALTIMORE, MD.	
7836	Ober's Dissolved Phosphate,	Wm. Atkinson, McVeytown,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7970	Patapsco High Grade Acid Phosphate,	Heisey & Curry, Hummelstown,
7209	Patapsco High Grade Acid Phosphate,	Fred Mick, Cresco,
7692	Patapsco High Grade Acid Phosphate,	Edward Newhardt, Easton,
7962	Patapsco Pure Dissolved S. C. Phosphate,	Ackermanville Milling Co., Ackermanville,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
8047	Piedmont 16% Acid Phosphate,	H. E. Mullen, Christiana,
	THE POLLOCK FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7898	Magic Phosphate,	Irvin Earnest, Wolfsburg,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
7594	Rasin's Sea Wall Special,	H. B. Low & Son, Orangeville,
	READING BONE FERTILIZER CO., READING, PA.	
7169	16% Clear Acid Phosphate,	P. F. Powell, West Grove,
7716	16% Clear Acid Phosphate,	F. A. Scheiver, Slatington,
	READING CHEMICAL COMPANY, READING, PA.	
8060	High Grade Phosphate,	L. A. Ernis, Towanda,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
7436	Royster's 12% Acid Phosphate,	Samuel Carl, Spring Glen,
7490	Royster's 14% Acid Phosphate,	F. C. Deveny, Forest City,
7674	Royster's 14% Acid Phosphate,	John S. Romig, Wind Gap,
8063	Royster's High Grade 16% Acid Phosphate,	L. A. Chase & Son, Russell,
7705	Royster's High Grade 16% Acid Phosphate,	H. L. Romich, Emaus,
7156	Royster's High Grade 16% Acid Phosphate,	Harvey Spencer, Cochranville,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
7389	Scott's Tip Top Soluble Phosphate, 16%,	Levi Beiler, Elverson,
7163	Scott's Tip Top Soluble Phosphate, 16%,	Edw. W. Rupert, Oxford,
	SHARON RENDERING & FERTILIZER WORKS, CHARLES WOGE & SONS, PROPRIETORS, SHARON, PA.	
8083	16% Available Phosphoric Acid,	Chas. Woge & Sons, Sharon,

PHOSPHATE FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	$	
3.66	18.34	17.00	17.10	16.00	1.24	1.00	30 00	7513
9.12	16.81	17.00	16.77	16.00	0.04	1.00	25 00	7625
8.05	17.31	17.00	17.17	16.00	0.14	1.00	23 75	7647
4.47	17.73	17.00	17.65	16.00	0.08	1.00	----------	7796
2.82	17.92	15.00	17.82	14.00	0.10	1.00	27 00	7836
3.85	17.00	17.00	16.07	16.00	0.93	1.00	30 00	7970
2.51	18.46	17.00	16.23	16.00	2.23	1.00	29 25	7209
4.12	18.03	17.00	16.66	16.00	1.39	1.00	----------	7692
4.37	16.12	15.00	14.82	14.00	1.30	1.00	25 25	7962
2.67	16.77	------------	16.63	16.00	0.14	----------	25 00	8047
1.47	11.48	11.00	10.37	10.00	1.11	1.00	22 00	7898
2.26	10.94	11.00	10.34	10.00	0.60	1.00	22 50	7594
6.35	17.85	17.00	16.27	16.00	1.58	1.00	28 25	7169
4.30	18.18	17.00	17.45	16.00	0.73	1.00	28 00	7716
2.10	17.11	17.00	*15.44	16.00	1.67	1.00	26 20	8060
5.29	15.04	12.50	13.92	12.00	1.12	0.50	----------	7436
3.75	15.21	14.50	14.23	14.00	0.98	0.50	28 00	7490
3.35	16.03	14.50	14.74	14.00	1.29	0.50	23 75	7674
1.22	17.28	16.50	*15.63	16.00	1.65	0.50	31 00	8063
3.35	17.60	16.50	16.20	16.00	1.40	0.50	25 00	7705
7.04	16.94	16.50	*15.61	16.00	1.33	0.50	24 00	7156
5.90	17.13	17.00	16.63	16.00	0.47	1.00	27 00	7389
5.70	17.63	17.00	16.63	16.00	0.97	1.00	26 50	7163
1.50	18.08	------------	16.97	16.00	1.11	----------	28 00	8083

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*Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.	
7293	Dissolved South Carolina Rock,	F. E. Bailey, Northbrook,
	SOUTHERN FERTILIZING CO., BALTIMORE, MD.	
7421	Marvel Phosphate,	J. S. Hershberger, Everett,
	SWIFT & COMPANY, BALTIMORE, MD.	
7275	Swift's High Grade Acid Phosphate,	M. C. Stewart, Indiana,
	I. P. THOMAS & SON CO., PHILADELPHIA, PA.	
7867	S. C. Phosphate,	Joseph Fisher, Glenmoore,
7908	S. C. Phosphate,	C. E. Starr, Three Springs,
7950	S. C. Phosphate,	A. F. Stutzman & Co., Johnstown,
	VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.	
7402	V. C. 14% Acid Phosphate,	Blair Knisely, Reynoldsville,
7574	V. C. 16% Acid Phosphate,	E. B. Maurer, Boswell,
7681	V. C. 16% Acid Phosphate,	J. Milton Schick, Stroudsburg,
	THE ROBERT A. WOOLDRIDGE CO., BALTIMORE, MD.	
7807	Wooldridge's Basic Lime Phosphate,	David Keller, Windsor,
	YORK CHEMICAL WORKS, YORK, PA.	
7992	Dempwolf's Superphosphate,	M. D. Ebersole, Middletown,
7974	Dempwolf's Superphosphate,	B. H. Engle, Hummelstown,
		Average,

PHOSPHATE FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	$	
8.93	16.33	------------	16.19	16.00	0.14	----------	27 50	7293
4.93	8.39	11.00	*7.96	10.00	0.43	1.00	25 00	7421
3.16	18.24	16.00	16.82	16.00	1.42	----------	30 00	7275
2.45	16.10	14.50	15.32	14.00	0.78	0.50	----------	7867
3.95	15.68	14.50	14.66	14.00	1.02	0.50	24 75	7908
2.25	15.24	14.50	14.17	14.00	1.07	0.50	32 00	7950
7.77	15.10	15.00	15.07	14.00	0.03	1.00	25 00	7402
2.50	18.79	17.00	18.42	16.00	0.37	1.00	28 50	7574
5.62	16.54	17.00	13.34	16.00	0.20	1.00	25 25	7681
1.57	15.24	14.00	*12.48	13.00	2.76	1.00	----------	7807
5.52	16.23	------------	16.09	16.00	0.14	----------	27 40	7992
5.15	17.64	------------	17.49	16.00	0.15	----------	24 00	7974
4.50	16.50	------------	15.55	------------	0.95	----------	26 56	----------

*Deficient.

TABLE NO. V.—ROCK AND

Furnishing Phosphoric

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7339	Boss Potash Fertilizer,	Frank Allen, Allenwood,
7563	Boss Potash Fertilizer,	J. G. Mumma, Berlin,
7810	Boss Potash Fertilizer,	Zinn Brothers, York,
7340	Dissolved Phosphate & Potash,	Frank Allen, Allenwood,
7488	Dissolved Phosphate & Potash,	W. A. Bright, Greenville,
7691	Dissolved Phosphate & Potash,	A. L. Shimer, Nazareth,
7413	W. S. Farmer & Co. Branch B. & F. Phosphate.	Albert Dively, Bedford,
7548	Imperial Phosphate & Potash,	E. M. DeLong, Loganton,
7697	Imperial Phosphate & Potash,	Geo. Itterly, Wind Gap,
7240	Imperial Phosphate & Potash,	S. Peek & Son, Nittany,
7624	Star Phosphate with Potash,	N. L. Orr, Tyrone,
7823	Wheeler's Wheat & Clover Fertilizer,	W. N. Brosha, Antes Fort,
7465	Wheeler's Wheat & Clover Fertilizer,	Monroe Savidge, Hegins,
7405	Wheeler's Wheat & Clover Fertilizer,	C. A. Stucky, Wolfsburg,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
7821	Armour's Wheat & Clover Fertilizer,	W. N. Brosha, Antes Fort,
7964	Armour's Wheat & Clover Fertilizer,	Harvey Dutt, Bangor,
7623	Armour's Wheat & Clover Fertilizer,	Levi Stuekey, New Enterprise,
7848	Phosphate & Potash No. 1: 0-10-2,	Smith & Logan, Cabot,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
7226	Baugh's Soluble Alkaline Superphosphate,	R. D. Forman, Center Hall,
7677	Baugh's Soluble Alkaline Superphosphate,	Peter Frantz, Pen Argyl,
7460	Baugh's Soluble Alkaline Superphosphate,	Nathan Hunstinger, Snyders,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7247	Bowker's Great Crop,	W. N. Weidensaul, Millmont,
7496	Bowker's Superphosphate with Potash,	J. Dymond, Waymart,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7368	E. Frank Coe's Golden Harvest, Revised,	W. G. Beaver, Catawissa,
7701	E. Frank Coe's Golden Harvest, Revised,	George Lentz, Bangor,
	THE CONSUMERS CHEMICAL CORPORATION, NEW YORK, N. Y.	
7443	Consumers' Pure Sure Phosphate & Potash,	L. A. Steigerwalt, Andreas,
7444	Consumers' Pure Sure Potash Mixture,	L. A. Steigerwalt, Andreas,
	DUBOIS FERTILIZER WORKS, INC., DUBOIS, PA.	
7941	DuBois Phosphate & Potash Fertilizer,	J. W. Eberts, Clearfield,
7587	DuBois Potash Mixture,	Jas. S. Cole, Millville,
	GRIFFITH & BOYD COMPANY, BALTIMORE, MD.	
7390	Special Grain Grower,	Arthur A. Geiger, Joanna,
7131	Special Grain Grower,	D. H. Shearer & Son, New Oxford,

POTASH FERTILIZERS.

Acid and Potash.

Motiusre.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
4.70	9.40	9.00	8.95	8.00	0.45	1.00	*4.73	5.00	4.30	0.43	36 25	7339
3.59	8.87	9.00	8.59	8.00	0.28	1.00	*4.46	5.00	4.46	--------	35 87	7563
3.72	8.55	9.00	8.07	8.00	0.48	1.00	5.21	5.00	5.21	--------	34 30	7810
4.31	12.44	11.00	11.71	10.00	0.73	1.00	*1.62	2.00	--------	1.62	29 50	7340
5.11	11.93	11.00	10.77	10.00	1.16	1.00	*1.20	2.00	1.20	--------	32 00	7488
3.82	11.01	11.00	10.46	10.00	0.55	1.00	2.02	2.00	1.65	0.37	27 00	7691
6.07	10.98	11.00	10.25	10.00	0.73	1.00	1.88	2.00	--------	1.88	--------	7413
6.51	11.38	11.00	10.87	10.00	0.51	1.00	*3.14	4.00	3.14	--------	34 00	7548
5.74	11.35	11.00	10.55	10.00	0.80	1.00	*2.07	4.00	2.07	--------	34 00	7697
8.38	10.24	11.00	*9.72	10.00	0.52	1.00	4.21	4.00	4.21	--------	36 75	7240
3.37	12.67	11.00	11.99	10.00	0.68	1.00	1.05	1.00	0.65	0.40	27 00	7624
4.00	11.19	11.00	10.68	10.00	0.51	1.00	*1.01	2.00	0.50	0.51	27 90	7823
4.40	10.74	11.00	10.10	10.00	0.64	1.00	2.00	2.00	--------	2.00	--------	7465
6.22	11.10	11.00	10.23	10.00	0.87	1.00	1.98	2.00	1.00	0.98	29 50	7405
5.83	10.84	10.50	10.14	10.00	0.70	0.50	5.24	5.00	4.50	0.74	36 90	7821
6.22	10.47	10.50	*9.49	10.00	0.98	0.50	5.14	5.00	4.20	0.94	37 00	7961
5.00	12.14	10.50	11.02	10.00	1.12	0.50	*4.17	5.00	4.17	--------	--------	7623
2.15	12.21	10.50	11.02	10.00	1.19	0.50	*1.75	2.00	--------	1.75	36 75	7818
5.25	11.14	10.00	10.07	10.00	1.07	--------	1.92	2.00	--------	1.92	21 25	7226
4.62	10.40	10.00	10.11	10.00	0.29	--------	1.94	2.00	1.94	--------	23 00	7677
8.62	10.72	10.00	10.48	10.00	0.24	--------	1.83	2.00	1.83	--------	27 25	7460
6.01	9.44	9.00	8.28	8.00	1.16	1.00	*4.48	5.00	4.25	0.23	36 50	7247
5 42	13.65	11.00	11.94	10.00	1.11	1.00	*1.64	2.00	0.90	0.74	40 00	7496
5.76	9.24	9.00	8.72	8.00	0.52	1.00	5.06	5.00	3.10	1.96	34 00	7368
2.82	8.97	9.00	8.40	8.00	0.57	1.00	4.92	5.00	3.40	1.52	35 25	7701
7.41	11.03	10.00	9.68	9.00	1.37	1.00	*1.79	2.00	0.50	1.29	31 75	7443
6.04	11.39	11.00	9.91	10.00	1.48	1.00	1.24	1.00	--------	1.24	26 50	7444
1.39	9.49	10.60	*8.53	10.00	0.96	0.60	2.27	2.00	--------	2.27	33 50	7941
6.07	10.24	10.60	*6.76	10.00	3.48	0.60	*3.60	4.00	--------	3.60	34 15	7587
7.44	11.43	11.00	10.13	10.00	1.30	1.00	2.36	2.00	--------	2.36	--------	7390
10.10	12.44	11.00	11.25	10.00	1.19	1.00	*1.73	2.00	--------	1.73	27 15	7131

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*Deficient.

TABLE V.--ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	S. M. HESS & BROTHER, INC., PHILADELPHIA, PA.	
7200	Emporer Phosphate,	F. W. Frantz, Mt. Aetna,
7126	Emporer Phosphate,	Maurice E. Walter, Hanover,
7753	Soluble Phosphate & Potash,	J. R. Iddings, Mifflinburg,
7418	Soluble Phosphate & Potash,	F. H. Reighard, Bedford,
7181	Soluble Phosphate & Potash,	J. H. Shenk, Linglestown,
	M. P. HUBBARD & CO., INC., BALTIMORE, MD.	
7814	Hubbard's Soluble Phosphate & Potash,	Bert Hoff, Seven Valleys,
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
7934	Hubbard's Phosphate & Potash,	Francis Houseknecht, Sybertsville,
	THE JERECKI CHEMICAL CO., SANDUSKY, OHIO.	
8072	Square Brand Phosphate & Potash,	Wildrick & Wildrick, Hartstown,
	LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
7276	Lister's Dissolved Phosphate & Potash, 1916,	G. W. Martin & Co., Saltsburg,
7278	Lister's Grain & Grass Fertilizer, 1916,	G. W. Martin & Co., Saltsburg,
7771	Lister's Phosphoric Acid & Potash,	Herman & Bolig, Selinsgrove,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
7338	Miller's Alkaline Mixture,	Francis T. Baker, Lewisburg,
7650	Miller's Alkaline Mixture,	Elmer Markey, York,
7187	Miller's Alkaline Mixture,	N. B. Yost, Myerstown,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
7626	N. A. C. Brand, 0-10-2,	R. S. Clark, Huntingdon,
	G. OBER & SONS CO., BALTIMORE, MD.	
7788	Ober's Standard Potash Compound,	B. F. Ensweiler, Florin,
7837	Ober's 10% Super Phosphate & Potash,	Wm. Atkinson, McVeytown,
7130	Ober's 10% Super Phosphate & Potash,	J. H. Duttera, New Oxford,
7202	Ober's 10% Super Phosphate & Potash,	Harvey Gernet, Myerstown,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7670	Patapsco Potash Mixture,	Dillsburg Grain & Milling Co., Dillsburg,
7372	Patapsco Potash Mixture,	F. E. Houck, Catawissa,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
7596	Piedmont Acidulated Phosphate & Potash,	H. B. Low & Son, Orangeville,
	THE POLLOCK FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
7399	Pollock's Star Alkaline Phosphate,	Blackburn Milling Co., Cessna,
7415	Pollock's Star Alkaline Phosphate,	Albert Dively, Bedford,
7400	Pollock's Victor Brand,	Blackburn Milling Co., Cessna,

POTASH FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
5.41	10.97	11.00	9.95	10.00	1.02	0.87	0.87	1.00	--------	0.87	25 00	7200
6.73	10.97	11.00	10.37	10.00	0.60	1.00	0.94	1.00	0.50	0.44	23 25	7126
5.55	10.83	11.00	10.19	10.00	0.64	1.00	2.29	2.00	2.29	--------	--------	7753
6.60	12.54	11.00	11.74	10.00	0.80	1.00	1.82	2.00	0.80	1.02	--------	7418
6.15	10.37	11.00	9.89	10.00	0.48	1.00	1.95	2.00	--------	1.95	--------	7181
4.47	11.93	11.00	9.97	10.00	1.96	1.00	2.31	2.00	--------	2.31	26 50	7814
1.50	11.48	11.00	10.00	10.00	1.48	1.00	2.73	2.00	2.73	--------	--------	7934
1.89	12.19	11.00	10.80	10.00	1.39	1.00	*1.62	2.00	0.50	1.12	30 00	8072
5.31	11.23	11.00	10.81	10.00	0.42	1.00	1.07	1.00	0.55	0.52	27 00	7276
5.77	10.26	11.00	10.46	10.00	0.50	1.00	*1.63	2.00	1.40	0.26	30 00	7278
6.20	11.14	11.00	10.66	10.00	0.48	1.00	4.05	4.00	4.05	--------	35 00	7771
7.44	12.51	12.50	11.86	12.00	0.65	0.50	2.44	2.00	2.44	--------	31 50	7338
6.82	12.99	12.50	12.22	12.00	0.77	0.50	2.05	2.00	2.05	--------	--------	7650
6.94	12.54	12.50	*11.80	12.00	0.74	0.50	2.09	2.00	2.09	--------	--------	7187
6.82	10.65	11.00	10.64	10.00	0.01	1.00	*1.71	2.00	1.71	--------	27 00	7626
4.92	12.46	13.00	*11.54	12.00	0.92	1.00	4.00	4.00	1.00	3.00	--------	7788
5.00	10.54	11.00	10.11	10.00	0.43	1.00	2.05	2.00	0.60	1.45	30 50	7837
7.12	11.86	11.00	11.26	10.00	0.60	1.00	1.95	2.00	0.50	1.45	26 60	7130
2.31	11.86	11.00	11.39	10.00	0.47	1.00	2.02	2.00	--------	2.02	--------	7202
5.45	10.97	11.00	10.36	10.00	0.61	1.00	*3.68	4.00	3.68	--------	--------	7670
6.78	10.41	11.00	*9.39	10.00	1.02	1.00	*1.80	4.00	1.20	0.60	34 50	7372
5.34	10.42	11.00	10.14	10.00	0.28	1.00	2.02	2.00	2.02	--------	29 00	7596
8.01	10.73	11.00	10.25	10.00	0.48	1.00	5.22	4.00	5.22	--------	34 00	7399
5.59	11.44	11.00	10.05	10.00	1.39	1.00	4.00	4.00	1.20	2.80	--------	7415
6.69	11.10	11.00	10.68	10.00	0.42	1.00	1.40	1.00	1.00	6.40	25 00	7400

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*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
7538	Rasin's Phosphate & Potash Fertilizer,	S. H. Dankle, Myerstown,
7600	Rasin's Phosphate & Potash Fertilizer,	H. B. Low & Son, Orangeville,
7260	Rasin's Phosphate & Potash Fertilizer,	J. D. Markle, Hanover,
7595	Rasin's Phosphate & Potash, Revised,	H. B. Low & Son, Orangeville,
7592	Rasin's Special Alkaline Mixture,	H. B. Low & Son, Orangeville,
7629	Rasin's Special Phosphate & Potash,	J. W. Harper, Alexandria,
7345	Rasin's Special Phosphate & Potash,	Chester MacCormick, State College,
7259	Rasin's Special Phosphate & Potash,	J. D. Markle, Hanover,
7262	Rasin's Victoria Phosphate & Potash,	J. D. Markle, Hanover,
	READING CHEMICAL COMPANY, READING, PA.	
7556	Soluble Grain Mixture,	Charles E. Frazer, Mill Hall,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
7989	Royster's Bumper Crop Potash Mixture,	Philip Deimler, Middletown,
7790	Royster's Bumper Crop Potash Mixture,	E. H. Zercher, Mt. Joy,
7988	Royster's Cloverdale Potash Mixture,	Philip Deimler, Middletown,
7494	Royster's Cloverdale Potash Mixture,	F. C. Deveny, Forest City,
7675	Royster's Cloverdale Potash Mixture,	John S. Romig, Wind Gap,
7740	Royster's Made Well Potash Mixture,	Milton Weiman, Dover,
7845	Royster's Old Glory Potash Mixture,	Shever Brothers, Harmony,
7733	Royster's Superb Potash Mixture,	J. B. Spera, Dillsburg,
8063	Royster's Superb Potash Mixture,	Tionesta Milling Co., Tionesta,
	SCHAAL-SHELDON EFRTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BUFFALO, N. Y.	
7616	Phosphate & Potash,	J. E. Jackson, Everett,
	THE SCOTT FERTILIZER COMPANY, ELKTON, MD.	
7724	Scott's Soluble Phosphate & Potash,	H. F. Kistler, Wanamaker,
	SOUTHERN FERTILIZING CO., BALTIMORE, MD.	
7144	Alkaline Brand,	W. O. Andrew, McKnightstown,
	SWIFT & COMPANY, BALTIMORE, MD.	
7711	Swift's Farmers Home,	Wm. F. Guth, East Macungie,
7944	Swift's Farmers Home,	T. L. Wall, Clearfield,
7954	Swift's Special High Grade Phosphate & Potash.	Simon F. Blackburn, Martinsburg,
7602	Swift's Special High Grade Phosphate & Potash.	M. Getty, Orangeville,
7299	Swift's Special High Grade Phosphate & Potash.	Thomas Haines Co., Malvern,
7714	Swift's Wheat Grower Phosphate & Potash,	William F. Guth, East Macungie,
	I. P. THOMAS & SON CO., PHILADELPHIA, PA.	
7868	Alkaline Fertilizer,	Joseph Fisher, Glenmoore,
7863	Special Alkaline Fertilizer,	Theo. M. Griffith & Son, Downingtown,
7919	Special Alkaline Fertilizer,	Ralph M. Hetherington, Ringtown,
7349	Special Alkaline Fertilizer,	F. W. Martz, Washingtonville,
	VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, BALTIMORE, MD.	
7451	V. C. Alkaline Mixture,	Victor Solt, Lehighton,
7450	V. C. Special Phosphate & Potash,	Victor Solt, Lehighton,

POTASH FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
8.87	12.16	11.00	9.88	10.00	2.28	1.00	2.40	2.00	0.90	1.50	--------	7538
10.24	12.07	11.00	10.03	10.00	2.04	1.00	2.19	2.00	1.90	0.29	29 00	7600
10.15	12.73	11.00	10.22	10.00	2.51	1.00	2.17	2.00	0.60	1.57	29 00	7260
4.73	10.27	11.00	*9.79	10.00	0.48	1.00	1.46	1.00	--------	1.46	26 25	7595
4.12	8.93	9.00	8.28	8.00	0.65	1.00	3.10	3.00	0.90	2.20	30 50	7592
6.45	12.82	11.00	*9.76	10.00	3.06	1.00	5.91	5.00	1.30	4.61	35 00	7629
8.23	12.58	11.00	9.97	10.00	2.61	1.00	5.57	5.00	1.80	3.77	--------	7345
7.50	12.34	11.00	*9.74	10.00	2.60	1.00	*4.50	5.00	2.70	1.80	37 00	7259
3.61	13.56	13.00	12.73	12.00	0.83	1.00	*1.73	2.00	--------	1.73	30 00	7262
6.05	10.64	11.00	10.32	10.00	0.32	1.00	1.98	2.00	1.50	0.48	28 10	7556
2.62	11.00	8.50	9.46	8.00	1.54	0.50	4.88	5.00	0.50	4.38	36 00	7989
2.35	10.64	8.50	9.20	8.00	1.44	0.50	*4.48	5.00	--------	4.48	35 50	7790
5.05	11.49	10.50	10.67	10.00	0.82	0.50	2.11	2.00	--------	2.11	29 75	7988
5.77	10.78	10.50	9.98	10.00	0.80	0.50	*1.76	2.00	--------	1.76	38 50	7494
4.77	11.03	10.50	10.39	10.00	0.64	0.50	2.54	2.00	--------	2.54	27 75	7675
3.60	10.28	8.50	9.40	8.00	0.88	0.50	2.91	3.00	--------	2.91	--------	7740
3.22	11.14	10.50	10.13	10.00	1.01	0.50	1.01	1.00	1.01	--------	28 00	7845
4.15	12.73	10.50	11.28	10.00	1.45	0.50	4.57	4.00	--------	4.57	33 10	7733
2.45	12.91	10.50	11.12	10.00	1.79	0.50	4.13	4.00	0.50	3.63	36 00	8066
4 94	9.46	9.00	8.91	8.00	0.55	1.00	*4.55	5.00	4.20	0.35	37 00	7616
6.12	13.01	14.00	12.41	12.00	0.60	2.00	2.07	2.00	2.07	--------	30 00	7724
7.75	8.93	9.00	8.43	8.00	0.50	1.00	4.90	5.00	4.90	--------	35 55	7144
3.62	12.95	10.00	10.99	10.00	1.96	--------	*3.72	4.00	2.50	1.22	34 50	7711
2.27	12.18	10.00	10.71	10.00	1.47	--------	3.96	4.00	3.96	--------	34 25	7944
3.07	14.03	12.00	12.18	12.00	1.85	--------	5.62	5.00	5.62	--------	44 00	7954
5.87	14.43	12.00	12.55	12.00	1.88	--------	5.54	5.00	3.20	2.34	38 59	7602
5.93	14.16	12.00	12.12	12.00	2.04	--------	4.86	5.00	1.10	3.76	39 00	7299
2.60	15.12	12.00	12.71	12.00	2.41	--------	2.66	2.00	2.35	0.31	33 00	7714
7.25	11.89	10.50	10.93	10.00	0.96	0.50	1.82	2.00	1.50	0.32	--------	7868
6.67	12.22	10.50	11.31	10.00	0.91	0.50	*3.51	4.00	3.51	--------	39 00	7863
7.72	10.13	10.50	*9.67	10.00	0.46	0.50	4.13	4.00	4.13	--------	33 50	7919
10.44	10.54	10.50	10.13	10.00	0.41	0.50	4.00	4.00	2.40	1.60	34 00	7349
5.96	8.71	9.00	8.11	8.00	0.60	1.00	3.00	3.00	0.60	2.40	28 50	7451
8.19	11.51	11.00	10.49	10.00	1.02	1.00	5.32	5.00	1.00	4.32	--------	7450

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*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE ROBERT A. WOOLDRIDGE CO., BALTIMORE, MD.	
7410	Wooldridge's American Potash Mixture,	Jno. A. Crilley, Imler,
7758	Wooldridge's American Potash Mixture,	Philip Ocker, Beavertown,
7842	Wooldridge's Liberty Bell Potash Mixture,	R. E. Brindle, Belleville,
	THE WORLDS FERTILIZER PROCESS CO., SHARPSBURG, PA.	
7125	Shur-Gro,	J. W. G. Carns, Laughlintown,
	YORK CHEMICAL WORKS, YORK, PA.	
7990	Dempwolf's Ten and Two,	M. D. Ebersole, Middletown,
7554	Dempwolf's Ten & Four,	A. T. Baird, Lock Haven,
7993	Dempwolf's Ten & Four,	M. D. Ebersole, Middletown,
8032	Dempwolf's Ten & Four,	H. M. Stouffer, Leola,
		Average,

POTASH FERTILIZERS—Concluded.

	PHOSPHORIC ACID.						POTASH.					
	Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	$	
5.88	11.49	11.00	10.84	10.00	0.65	1.00	1.96	2.00	0.50	1.46	29 25	7410
4.17	10.87	11.00	10.30	10.00	0.57	1.00	*1.69	2.00	1.69	--------	28 25	7758
5.17	12.44	13.00	12.16	12.00	0.28	1.00	3.45	3.00	3.45	--------	33 75	7842
†0.78	†0.38	--------	†*0.14	0.50	†0.24	--------	†2.16	2.00	--------	2.16	--------	7125
6.57	10.98	--------	10.42	10.00	0.56	--------	1.96	2.00	1.96	--------	--------	7990
8.40	11.33	--------	10.82	10.00	0.51	--------	*3.43	4.00	3.43	--------	--------	7554
5.00	12.35	--------	11.21	10.00	1.14	--------	4.44	4.00	--------	4.44	35 00	7993
4.12	11.10	--------	10.74	10.00	0.36	--------	4.08	4.00	2.40	1.68	36 00	8032
5.60	11.35	--------	10.37	--------	0.98	--------	2.94	--------	--------	--------	32 00	------

*Deficient.
†Excluded from average.

TABLE NO. VI.—MISCELL

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	NITRATE OF SODA.	
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
8017	Nitrate of Soda,	Gas & Water Co., Scranton,
7213	Nitrate of Soda,	Oscar Vanbusker, Bald Mount,
		Average,
	MISCELLANEOUS.	
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
7158	Animal Base Special,	H. P. Passmore & Brother, Oxford,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
7320	Royster's Fifty-Fifty Bone and Phosphate,	Harvey L. Moses, Chester Springs,
	F. L. WINNER, LOCK HAVEN, PA.	
7545	Tankage,	F. L. Winner, Lock Haven,
	THE WORLD'S FERTILIZER PROCESS CO., SHARPSBURG, PA.	
7124	Success Plant Grower,	J. W. G. Carns, Laughlintown,
	YORK CHEMICAL WORKS, YORK, PA.	
7658	Dried Ground Blood,	Red Lion Farmers' Co-operative Association, Red Lion.
7659	Manure Salt,	Red Lion Farmers' Co-operative Association, Red Lion.

ANEOUS FERTILIZERS.

Moisture.	NITROGEN.		TOTAL PHOSPHORIC ACID.		POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	$	
0.10	16.10	15.00	----	----	----	----	----	----	100 00	8017
0.21	15.53	15.00	----	----	----	----	----	----	75 00	7213
0.15	15.82	----	----	----	----	----	----	----	87 50	----
4.70	1.55	1.23	18.43	19.00	----	----	----	----	41 00	7158
4.12	1.25	1.23	21.42	19.00	----	----	----	----	45 00	7320
11.56	6.59	4.94	10.77	9.15	----	----	----	----	50 00	7545
1.19	----	----	----	----	1.78	1.00	----	1.78	----	7124
10.00	13.30	13.17	----	----	----	----	----	----	107 35	7658
0.54	----	----	----	----	21.58	20.00	21.58	----	48 00	7659